The Handy Cost Book

UNIFORM COST ACCOUNTING SYSTEM

DESIGNED FOR THE

BUILDING SUPPLY DEALER

The Dealers' Handy Cost Book

containing

The Building Supply News' Adaptable, Uniform Cost Accounting System

for every

Building Supply, Lumber and Coal Retail Merchant

WITH GRAPHS AND ILLUSTRATIONS AND A FACSIMILE OF ALL NECESSARY FORMS

TO WHICH ARE ADDED A WEALTH OF DISCUSSION AND EXPLANATIONS AND A READY REFERENCE INDEX TO EVERY SUBJECT

Designed by G. W. Hafner

AT THE DIRECTION OF
Building Supply News
CHICAGO

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The Author

G. W. Hafner, the man who, at the special request and supervision of Building Supply News, has written the system and prepared the "Handy Cost Book" is one of the best-known and most experienced cost accounting experts in America.

In addition to a long study of the cost accounting needs of retailers in various lines, Mr. Hafner has devoted a large part of his time for the past four years to specific study of the conditions and every-day developments of the supply field.

In 1920 at the special request of Building Supply News, on the basis of his knowledge and experience, Mr. Hafner undertook the working out and preparation of the "Building Supply News Cost Accounting System for the Retail Dealer," the whole project covering more than two years of exhaustive effort—in fact he is still engaged in the practical work of clearing up difficulties and carrying on a nation-wide educational campaign for the establishment of 100 per cent. efficient cost accounting methods thruout the retail business.

Born in Owensboro, Ky., February 2, 1882, educated in the local schools and at Central University, Richmond, Ky., Mr. Hafner spent his first six years of manhood in direct contact with the retail lumber and building supply business. From that intimate relationship with the industry in which he was afterward to become so important a factor, Mr. Hafner turned to the practice of public accounting, auditing, systematizing and industrial engineering. For ten years from 1908 to 1917 he had a wide and varied experience in commercial lines. In 1921 Mr. Hafner severed his connection with Ernst & Ernst for the purpose of forming his own firm, G. W. Hafner, Inc., which is now a full fledged organization engaged in public accounting practice.

The Key to This Book

By G. W. Hafner

[To get the most out of the next 150 pages of the Handy Cost Book, we urge you to read this personal message from the author, Mr. Hafner. It is the vital key to the best uses for, and real values of, the contents that follow.—Publishers.]

THE AUTHOR thinks himself happily situated in being able to address, thru the pages of this book, so large an audience on a subject that should be of *vital* interest to every business man.

The phrase "should be" is used advisedly. For some of you, I judge, will not take the time to read and digest what is presented herein; if, indeed, you will so much as glance at the subject matter itself.

And the reason for that condition is, that you cannot feel interested in accounting. You do not care about it. You *cannot* care about it.

Nor can you be blamed for this attitude of mind. About such bookkeeping and accounting as you have come in contact with, no being on earth ever did or ever could become interested. Too often, experience teaches, bookkeeping records are maintained as a part of *sine qua non* of business—we keep books because every body else does. The quantity and quality of information that books based upon this thought give to owners and executives is negligible. No wonder you are not interested. Your books furnish nothing to incite your interest.

"Well, but," you say, "it is not *right* that accounting should be interesting. It is a very necessary thing,

this accounting, very essential, very vital to the conduct of my business; but—it is not interesting. It is its duty to be dull. It is monotonous by law. It cannot be correct and yet interesting."

If you will believe me, you are wrong. All things whatsoever that are worth doing at all are interesting and attractive in the doing and when they are done. Now, if you say that your present methods of bookkeeping and accounting are not interesting to you, the logical deduction is that there is something wrong, either in your bookkeeping methods or in you; and I trust you will not think I intend to flatter you when I say that the fault is not in *you*, but in the bookkeeping.

You will not say that you have no pleasure in the amount of profit you are making. Surely you are interested in knowing whether you are solvent, and whether you are making any headway toward the one goal of all business activity; namely, profits.

If you are not making money, or if you are making less than you should, there's a reason. Your books are kept to give you the reason. **And to the extent that your books furnish you with the reason, to that exact extent will they be interesting to you.**

"Well, but what are we to do," you will say, "we cannot make bookkeepers of ourselves." True! and there is no need that you should. You have more important work to do. You may very profitably leave the bookkeeping entries to your bookkeeper.

But to make **accountants** of yourselves is precisely what you **can do** and **ought to do.**

Accounting is an interpretation of the results of bookkeeping.

You should be an accountant. You **should** know how to interpret the language of figures. You **should** know how to read a Balance Sheet, and Profit and Loss Statement. If you do not know how to do these things, read over, study **and digest** what is contained in the various chapters, and you *will* know, finally and definitely.

Accounting is a science for all business men to learn, because all are concerned with it. And it is so simple that there is no excuse for not being acquainted with its primary rules, any more than for ignorance of grammar or of spelling, which are both far more difficult sciences.

Far less trouble than is necessary to learn how to play chess, or whist, or golf, tolerably, will acquaint you with all the main principles of accounting. The entire matter is up to you. If you want to know you may—and that easily. You may prefer to do other things. You may have no inclination for this. You may consider it of secondary importance. It is for you to choose.

You recall how it was in Shakespeare's "Merchant of Venice." How, in the play, the hand and heart of the fair damsel (representing Success, in your case) is to be won only by that man who should rightfully choose from among three caskets; one of gold, and one of silver, and one of lead.

Choose ye!

THE AUTHOR.

Chicago, Ill.

Contents

CHAPTER I

Fundamentals of Accounting

ACCOUNTING SHOULD TEST CONDITION OF BUSINESS

A right and practical system of accounting will tell more about your business than a physician can usually tell about his patient; it will do more for your business, in the way of testing its condition, than is done by the physician who, in diagnosing the case of his patient, uses the clinical thermometer, counts the pulse, takes the blood test—in short, all the tests for the condition of your business should be rendered by the accounts in your ledger for *the correct keeping of accounts is the means by which the business man may know all the vital facts in connection with his business, in order that he may plan providently.*

ACCOUNTING IS SIMPLE

There is nothing involved or complicated in this matter of bookkeeping. It is not mysterious. It is not clouded in a maze of technicalities. It is not hard to understand. There is no legerdemain, hocus-pocus, or chicanery about it.

It is simple. It is plain. It is easy of mastery. As a straight line is the shortest distance between two points, so also is modern bookkeeping methods the exemplification of the obvious and the practical.

ACCOUNTING IS STANDARDIZATION

It is the standard way of doing things, the way that has been developed as best thru years of experience. The first savage who tired of killing fish by means of a spear thrust, and made a primitive hook of a piece of curved shell introduced a standard method of catching fish.

When a man of the stone age discovered that fire was started in the dried grass at his feet by the sparks as they fell from the chipping of a flint arrowhead, a standard method of producing fire was established, which was not changed until the lucifer match was substituted.

STANDARDS THE CAUSE—PROGRESS THE RESULT

Until recently the standards followed by business men in accounting methods were largely of the rule-of-thumb variety, whereas the fundamental idea underlying modern accounting is the substitution of scientifically accurate methods for haphazard and rule-of-thumb methods.

Civilization has been enabled to progress only by the adoption of standards. Standards passed on from father to son and from generation to generation represent the cogs on the wheel of progress, by which it has been possible to maintain each slow and painful forward movement. And if it were not for the privilege of drawing on the storehouse of the accumulated experience of the race, as represented by its standards, each individual would be compelled to start in at the very beginning. Progress would have been impossible.

We are interested here and now in standards in bookkeping and accounting. Theories—you say? Well, yes; but theories founded upon the hard facts of experience, dearly bought, and precious because of that. *Accounting is simply a method which hard-headed, common-sense business men have worked out for recording and balancing what comes in and goes out in the daily transactions of their business.*

WHAT BUSINESS TRANSACTIONS CONSIST OF

Essentially all business transactions of whatever kind consist in transforming cash into salable goods, and salable goods into cash. This is the sum and substance of all business.

We begin by having a certain amount of cash on hand. This cash is spent in exchange for whatever goods we have

decided to deal in. We sell these goods and receive cash in return.

If we have been successful in disposing of our goods, the cash we receive for them will cover the original purchase price plus an increase of the total sum involved, which will be our profit.

CONDITION OF CASH THE MAIN DESIDERATUM

Two transformations are evident here. *FIRST, cash is transformed into goods; SECOND, goods are transformed into cash.*

But wait! No business is quite as simple and easy to handle as this may seem to signify. Over and above the cost of the goods themselves, our cash is also expended for things that are more or less intangible. In other words, it costs money to do business.

Every business has expenses—rent, insurance, taxes, depreciation, postage, stationery, and what not. This means that an element of complexity has been introduced into the transformation of our cash. It means that only a part of our cash is available for the purchase of goods. It means that part of it must be expended for rent, for letterheads, for billheads, for envelopes, for stamps, for any number of things that cannot be sold, and yet are necessary to the proper conduct of our business. And this means that when we sell our goods we must secure a price large enough to cover, not alone the cost of the goods themselves, but also the cost of all these necessary and *indispensable* expenses.

Our main interest, therefore, is always centered in the condition of our cash, which in the language of business is known as "Capital." Hence, the necessity for accounting arises, in order that the condition of our cash may be determined at any time.

BOOKKEEPING is the means by and thru which we observe how we stand, with respect to our cash or capital.

ACCOUNTING is an interpretation of the results of bookkeeping.

BOOKS OF ACCOUNTS

The following are the three elementary books of accounts:

1—*Books of Original Entry.*

2—*Journals.*

3—*Ledgers.*

Books of original entry serve as a means of recording the transformations of business transactions, such as the following:

(*a*) *Cash into salable goods and expenses.*

(*b*) *Salable goods into sales on credit.*

(*c*) *Sales on credit into cash received.*

Journals, in modern accounting practice, are generally combined with books of original entry, and as the various transactions are summarized in them, serve to indicate their destination, thus:

(*a*) *Cash received, charged to the bank, and credited to individual or firm paying it.*

(*b*) *Cash paid out, charged to individual or firm from whom purchase was made, and credited to the bank.*

(*c*) *Sales, charged to individual making purchase, and credited to sales account.*

Ledger accounts may be viewed as two columns of figures, as illustrated by the cash account. The entries to the left-hand column sum up all the cash we have put into the bank or into the cash box or till. The entries to the right-hand column sum up all the cash we have taken out of the bank or till. By adding up both columns and subtracting the total of the one column from the total of the other column, the difference between them will obviously represent the cash we still have on hand, whether that be in the bank, or in the till, or in both.

REAL ACCOUNTS

This cash account is what is termed a *Real Account.* It represents actual, tangible property—property in our possession that we can see, and handle. Land, buildings, machinery, equipment and materials or goods of all kinds are also *Real Accounts.* Any balance that remains in any of these accounts must of necessity always appear on one side, because it is impossible to have taken out more than was originally put in.

But ledger accounts do not always represent tangible assets or property. The reason for this lies in the very nature of double entry bookkeeping, which demands that every transaction be entered twice, in order to show both sides of the transformation involved. In other words, "what it was" and "what it is" must both be represented in ledger accounts.

TRANSFORMATION OF CASH

In order to illustrate this let us assume that a business starts out with an investment of $5,000. The first entry would be a charge to "Cash" account and a credit to individual "Investment" accounts, if the business was a sole proprietorship or partnership, or to "Capital Stock" account if a corporation. What we have, then, is a balance of $5,000 in cash in one ledger account, and a corresponding item of capital in another ledger account.

Hence, it is evident that whatever transformations we affect in the form of cash, the value of these must always balance with the entry of capital, until we have either made a profit—an addition to capital; or a loss—a diminishment of capital.

When goods are purchased, the transformation of cash must be recorded in both its aspects; that is to say, Merchandise must be charged with the amount we have paid or will have to pay for it, and Cash must be credited with the amount paid, whether that be immediately or sometime later on, de-

pending, certainly, upon whether our purchase was for cash or on credit.

Assuming that we spent $2,500 for goods, we would have in our ledger, following this transaction, three accounts; that is, one with Capital, showing a credit balance of $5,000, and one each with Cash and Merchandise with debit balances of $2,500 each.

FUNDAMENTAL PRINCIPLE OF DOUBLE-ENTRY BOOKKEEPING

In the first instance, the debit entry of $5,000 in our Cash account balanced the credit entry in Capital account.

In the second instance, the debit entries in both Cash and Merchandise accounts balances the entry in Capital account as before.

The reason for this is because the fundamental principle underlying double-entry bookkeeping is to maintain a balance between proprietorship on the one hand, and goods or property on the other.

Up to this point, the balance between Capital or proprietorship, and assets or property has not been affected. True, the form of our property has been changed, since part of our cash was used to purchase goods; but the total of our two property accounts, represented by Cash and Merchandise equals Capital account, or the initial $5,000 invested in the business.

CASH AND EXPENSES

Let us now extend our bookkeeping procedure to represent a condition where cash is paid out not alone for goods, but also for certain expenses necessary to the proper conduct of our business.

In addition to the use of our cash in the purchase of goods to the value of $2,500 we have found it necessary to make

further expenditures of cash, which, let us say, are represented by the following list:

Salaries	$200.00
Wages	100 00
Rent	100.00
Depreciation	20.00
Stationery	25.00
Postage	10.00
TOTAL	$455.00

NOMINAL ACCOUNTS

Having recorded all these transformations of cash, the next question that confronts us is this: Is the total of our assets still equal to our capital?

Let us see. *Our cash* is now reduced to a balance of $2,045; *our merchandise* is still worth $2,500; and we have set up on our ledger *six new accounts;* that is, *salaries,* $200; *wages,* $100; *rent,* $100; *depreciation,* $20; *stationery,* $25; *postage,* $10.

It is obvious that none of these last six accounts represents anything in our possession. We have paid out our money for all of these, but we have nothing tangible left. They do not represent anything real. They do not represent property. Hence, they are known as *Nominal Accounts.*

INEQUALITY OF PROPERTY AND CAPITAL

Now, since accounts with expenses do not represent anything real and tangible—since they do not represent property—our balance between property on the one hand and capital on the other is disturbed. Our property accounts now represent a total of only $4,545 as against a Capital account of $5,000.

The reason for this apparent discrepancy is that, as yet, we have sold nothing. Expenses have been incurred for doing business, but our business has consisted so far only in buying

goods. In order to round out the entire procedure, we must introduce the element of sales.

Let us assume, therefore, that we sold a quantity of our goods and received cash in return to the value of $1,200, and that these goods which were sold represented a cost to us of $600. It is evident that we have made a gross profit of $600. (By gross profit is meant a profit from which the expenses of doing business have not been deducted.)

PECULIARITY OF SALES TRANSACTIONS

This involves an entirely new element in our transactions. Heretofore, all of our transformations have been equal. It develops now that we have sold $600 worth of merchandise and have received $1,200 in return.

Hence, we are faced with the necessity of entering each item from two aspects, that is to say, in two values.

The sale is entered in the first place from the viewpoint of its cost to us; in the second place it is entered from the viewpoint of its sale price. Each of these entries must be charged and credited to ledger accounts.

FIRST, we take the sales at their cost to us, and charge Sales account, passing the corresponding credit to Merchandise account.

SECONDLY, we take the sales at sale price, charging the customer or customers, and crediting Sales account.

THIRDLY, as the money is received from the customer we charge Cash account and credit the individual or firm making payment.

THE COMPLETE CYCLE

We have now a complete cycle of transactions, and should be in a position to prepare a Balance Sheet and Profit and Loss Statement, thus:

BALANCE SHEET

ASSETS		LIABILITIES	
Cash on hand	$3,245	Capital	$5,000
Merchandise on hand	1,900	Surplus	145
	$5,145		$5,145

PROFIT AND LOSS STATEMENT

Sales		$1,200
LESS: Cost of Goods Sold		600
GROSS PROFIT		600
EXPENSES		
Salaries	$200	
Wages	100	
Rent	100	
Depreciation	20	
Stationery	25	
Postage	10	
		455
NET PROFIT		$145

CHAPTER II

Books of Accounts

THE SIMPLE ARRANGEMENTS for keeping track of the results of buying and selling described in Chapter I, would require supplementing in any business of importance. The present chapter exemplifies the fundamentals described therein, and presents the books of accounts to be used.

ACCOUNTS PAYABLE AND DISTRIBUTION RECORD (FORM 1—FIGURE 7)

All purchase invoices of whatever kind, except those paid from the petty cash fund, all pay-rolls, and all petty cash summaries are to be entered in this record.

The face value of each invoice is to be separately entered to the credit of "Accounts Payable" in the column provided; the day of entry, and the date and number of invoices to be shown in the columns so headed. The corresponding debit will be entered to the particular column to which it applies; as for instance, invoice covering purchase of brick in "Brick" column, invoice covering purchase of cement in "Cement" column, invoice covering expenses to one of the expense columns, and so on.

The column headed "Paid by Check No." under the general heading "Credits" is to be used to set in the number of the check given in payment. At the end of the month all open items will agree with the balance of the controlling account with Accounts Payable in the General Ledger.

The column headed "General Ledger," under the general heading "Credits," is to be used for crediting the monthly proportions of insurance, taxes, depreciation, etc., to their respective General Ledger accounts, so that charges may be passed to expenses for the current month, as provided for in the four "Expense" columns, under the general heading

"Debits;" viz., "Yard," "Delivery," "Selling," and "Administrative and General Office."

The column headed "General Ledger" under the general heading "Debits" is to be used for making any charges to General Ledger accounts in the way of purchases of machinery or other assets, as well as for charging deferred items in the way of prepaid insurance, and the like.

All items charged or credited thru the two "General Ledger" columns will require to be separately posted to their respective ledger accounts.

All items charged thru the four "Expense" columns will require to be posted to the proper subdivision of these accounts, in the Expense Ledger, which will be illustrated and described by "Chart of Expense Classification" to be presented in a later chapter.

The totals of all columns, except the two "General Ledger" columns, will be posted to their respective accounts in the General Ledger at the end of the month.

This record should be footed in ink, ruled up at the end of the month, and the totals for the month supplied. It is self-balancing and should be balanced daily.

CASH DISBURSEMENTS RECORD (FORM 2—FIGURE 7)

Checks are drawn for all payments other than those made out of the "Petty Cash Fund." No Disbursements are to be made in cash except from the "Petty Cash Fund." The "Petty Cash Fund" must invariably be replenished by check drawn on the company's bank account.

The net amount of each check is to be separately entered to the credit of the bank from which the withdrawal was made. Check number is to be shown opposite each withdrawal, in column headed "Check Number," and the date of withdrawal in column headed "Day."

If, for any reason, a check is rendered void, the number of the check should be entered in its numerical order, the word "Void" written in the column headed "Paid To," and

the voided check filed with the cancelled checks subsequently returned from the bank.

The "Discount Earned" column is to be used only for cash discounts deducted in payment of accounts payable.

The "Freight" column is to be used for showing deductions on account of freight paid to transportation company, where goods were billed f. o. b. point of destination.

All payments to trade creditors are to be entered, in gross, in the "Accounts Payable" column.

All other entries will be made in the two "General Ledger" columns.

All entries in the "General Ledger" columns will be separately posted. The totals of all other columns will be posted to their respective accounts in the General Ledger at the end of the month.

This record should be footed in ink, ruled up at the end of the month, and the totals for the month supplied. It is self-balancing and should be balanced daily.

SALES ANALYSIS (FORM 3—FIGURE 7)

In this record all sales invoices of whatever kind, both cash and credit, are to be separately entered at their face value.

The total amount of the charge against the customer, as well as the daily totals of cash sales, are entered in the column headed "Accounts Receivable Dr." The date and invoice number are shown in the columns provided.

Each item entered in the "Accounts Receivable Dr." column requires to be individually posted to the account of the particular customer in the "Customer's Ledger." At the end of the month, the total of this column is posted to the "Accounts Receivable" account in the General Ledger.

Under the general heading "Analysis" the sales are variously distributed to their proper columns; as, for instance, sales of brick to "Brick Sales" column; sales of cement to

"Cement Sales" column, and so on thruout the balance of the record.

As will be noted, these entries to the "Analysis" section of the record are in two values; viz., sales value and cost value. By this arrangement, at the end of the month, both the value of the sales at the selling price and the value of the sales at the cost price are ascertained, for each separate classification.

At the end of the month, the totals of the columns headed "Sales Value" are posted to the *credit* of their respective "Sales" accounts in the Income and Expense Ledger.

Likewise, at the end of the month, the totals of the columns headed "Cost Value" are posted to the *debit* of their respective "Cost of Sales" accounts in the Income and Expense Ledger.

These "Cost Value" totals, however, require to be posted a second time. This is for the reason that we must have both a debit and a credit entry for cost of sales, as well as for sales.

It will be seen that our sales are debited to the individual customer, and credited to "Sales" accounts in total at the end of the month.

Hence, our cost of sales must have a corresponding credit entry to offset the debit to the various "Cost of Sales" accounts. This is taken care of by posting to the credit of the various "Inventory" accounts.

At the end of the month, therefore, each of the totals showing in the various "Cost Value" columns will be separately posted to the debit of their respective "Cost of Sales" account, and to the credit of their respective "Inventory" accounts.

The columns headed "Weight," under the general heading "Analysis" are provided as a means for distributing operating expenses to the various classifications or divisions of sales. Inasmuch as this has to do with the cost-finding fea-

ture of the methods presented in these articles, it is considered inadvisable to treat with it here.

CASH RECEIPTS RECORD (FORM 4—FIGURE 7)

All cash received is to be entered in this record, the net amount of each receipt being entered in the column headed "Net Cash Received," and credited to Accounts Receivable or to any other account to which it belongs.

Remittances from customers are to be entered in the "Accounts Receivable" column in gross; that is, the total credit to be given to customers, irrespective of the amount of cash discount taken or other deductions made.

All receipts for cash sales will be entered in the "Accounts Receivable" column, in the same manner as receipts from customers. This is correct for the reason that all sales for cash are entered to the debit of Accounts Receivable thru the Sales Analysis. If considered desirable, a customer's ledger sheet may be maintained with Cash Sales; this is hardly worth while, however, since the individual debit and credit entries for the cash sales transactions of each day will entirely balance each other.

The "Discount Allowed" column is to be used only for discounts deducted by customers.

The "Freight" column is to be used only in case customers deduct freight paid by them, where the invoice price included freight paid to destination.

All items of exchange will be entered in the "Exchange" column.

All other entries will be made thru the two "General Ledger" columns. Each item in the "General Ledger" columns will be posted separately. The totals of all other columns will be posted to their respective accounts, at the month's end.

Each entry in the "Accounts Receivable" column will be separately posted in the "Customer's Ledger" to the credit of individual customer's accounts.

This record is self-balancing and should be balanced daily. It should be footed in ink, ruled up at the end of the month, and the totals for the month supplied.

Daily or at stated intervals, if daily depositing is impractical, *all* cash received should be deposited in the bank.

GENERAL JOURNAL (FORM 5—FIGURE 7)

The Journal is to be used only for the usual monthly closing entries, after the books are first opened.

The first two entries, illustrated by vouchers 1 and 2, are opening entries in connection with sales of stock and the purchase of plant and equipment.

Vouchers 3 and 4 represent current monthly entries, while vouchers 5 to 10 inclusive, illustrate the closing entries for the month.

Each Journal entry requires an explanation. Any entry put thru the Journal without an explanation is, on the face of it, suspicious. These explanations should appear on the Journal sheet itself after each individual entry, if no other means is provided for adequate description.

In the method illustrated, such explanations are shown on the Journal Vouchers, which are summarized on the Journal itself, the date of the entry and voucher number being shown in the columns provided.

To illustrate such descriptive matter, the explanation on voucher No. 1 should read somewhat as follows:

"Setting up Capital Stock issued and outstanding as at July 1st, 1920, as shown by Capital Stock Ledger. Total amount authorized Capital Stock is fully paid up."

Likewise the explanatory matter on voucher No. 2 should read substantially thus:

"To state the purchase of plant and equipment, as authorized in minutes of meeting of Board of Directors, June 26th, 1920. *Division of assets is based upon appraisal made by American Appraisal Company, May 1st,* 1920."

All items appearing in the "General Ledger" columns require to be posted separately to their respective General Ledger or Income and Expense Ledger accounts.

Each item appearing in the "Accounts Receivable" columns is to be posted separately to the individual customer's account in the Customer's Ledger. At the end of the month, the totals of these columns are to be posted to the "Accounts Receivable" account in the General Ledger.

The totals of all entries in the "Accounts Payable" columns are to be posted, at the month's end, to the "Accounts Payable" account in the General Ledger. Each of these items must also be considered in its relation to the agreement between the open items showing monthly on the Accounts Payable and Distribution Record and the "Accounts Payable" account in the General Ledger.

LEDGER POSTINGS AND ACCOUNTS

The various entries shown on the Books of Original Entry; viz., Accounts Payable and Distribution Record, Cash Disbursements Record, Sales Analysis, Cash Receipts Record, and Journal (Figure 7), have all been posted to their proper ledger accounts as illustrated by Figures 8, 9 and 10. Each of these entries can be traced to its respective ledger account, and the entire procedure followed from beginning to end.

Figure 7 represents in graphic form the particular ledger to which each entry is posted.

Figure 8 portrays the various accounts contained in the Customers Ledger; figure 9, those in the Income and Expense Ledger; and figure 10, those in the General Ledger.

DETERMINING AGREEMENT BETWEEN SUBSIDIARY AND CONTROLLING ACCOUNTS

By drawing off the balances appearing on the various Customers Ledger sheets (figure 8) it will be seen that the total of these agrees with the balance in the "Accounts Receivable" account in the General Ledger. This agreement should be determined each month.

An addition of all the charges to the various sub-classifications of expense under each department, as represented by the four Expense Ledger sheets in figure 9, will provide a means of finding an agreement between such totals and the four controlling accounts with expenses in the General Ledger. It is necessary to determine this agreement each month.

The means whereby an agreement may be determined with the "Accounts Payable" account in the General Ledger has previously been discussed at the bottom of page 20 in this chapter.

BALANCE SHEET

We are ready, now, to draw off a trial balance. This is always drawn off previous to making the closing entries thru the Journal, as illustrated by vouchers, Nos. 5 to 10 inclusive, on form 5 of figure 7.

Our books being in balance, we proceed to make the closing entries for the month, and post these to their respective accounts in the General Ledger and Income and Expense Ledger.

What we have left, then, are certain balances of open Asset and Liability accounts in the General Ledger, since all income and expense items have been closed into the Profit and Loss account. From these we construct the following Balance Sheet:

BALANCE SHEET
UNIVERSAL BUILDING MATERIAL SUPPLY CO.

Month of July, 1920

ASSETS			
Cash in bank			$21,044.45
Accounts receivable			5,260.00
INVENTORIES			
Brick		$ 2,350.00	
Cement		739.00	
Gravel		225.00	
Lath		200.00	
Lime		320.00	
Sand		130.00	
Stone		585.00	
Miscellaneous		510.55	
			5,059.55
PLANT AND EQUIPMENT			
Land		10,000.00	
Buildings	$15,000.00		
LESS: Allowance for depreciation	62.50		
		14,937.50	
Machinery and equipment	6,050.00		
LESS: Allowance for depreciation	166.60		
		5,883.40	
Office furniture and fixtures		500.00	
			31,320.90
DEFERRED CHARGES			
Prepaid insurance			557.15
TOTAL ASSETS			$63,242.05
LIABILITIES			
Accounts payable			$11,036.00

ACCRUALS		
Accrued pay-roll	$ 1,556.50	
Accrued taxes	46.80	
Accrued freight	56.00	
		1,659.30
CAPITAL STOCK		
Authorized and outstanding		50,000.00
Profit and Loss		546.75
TOTAL LIABILITIES		$63,242.05

PROFIT AND LOSS STATEMENT

Inasmuch as the profit earned for the month, $546.75, is not sufficiently significant in itself as it appears on the Balance Sheet, there being no indication therein of how it is arrived at, it is considered advisable to construct a Profit and Loss Statement as shown below.

To do this, it is necessary only to proceed as follows:

Ascertain the Sales, for each separate classification, for the current month, as shown in the column headed "Current Month," "Income and Expense Ledger" sheets (Figure 9).

Deduct therefrom the cost of sales, which are found from the same ledger.

Find gross profit for each sales classification, and in total.

List the various expenses under each department, as shown by "Expense Ledger" sheets (Figure 9).

Deduct the total of such expenses from the gross profit to arrive at the net operating profit.

Add "Other Income," and deduct "Other Deductions," as illustrated by "Income and Expense Ledger" sheets (Figure 9), and the result is the net profit for the period.

PROFIT AND LOSS STATEMENT
UNIVERSAL BUILDING MATERIAL SUPPLY CO.

Month of July, 1920

Brick Sales	$8,750.00	
LESS: Cost of brick sold	7,000.00	
		$1,750.00
GROSS PROFIT ON BRICK		
PER CENT. TO SALES 20.		
Cement Sales	2,340.00	
LESS: Cost of cement	1,950.00	
		390.00
GROSS PROFIT ON CEMENT		
PER CENT. TO SALES 16.6		
Gravel Sales	200.00	
LESS: Cost of gravel sold	125.00	
		75.00
GROSS PROFIT ON GRAVEL		
PER CENT. TO SALES 37.5		
Lath Sales	600.00	
LESS: Cost of lath sold	450.00	
		150.00
GROSS PROFIT ON LATH		
PER CENT. TO SALES 25.		
Lime Sales	350.00	
LESS: Cost of lime sold	270.00	
		80.00
GROSS PROFIT ON LIME		
PER CENT. TO SALES 22.9		
Sand Sales	600.00	
LESS: Cost of sand sold	375.00	
		225.00
GROSS PROFIT ON SAND		
PER CENT. TO SALES 37.5		

Plaster Sales	160.00	
LESS: Cost of plaster sold	160.00	
	———	40.00
GROSS PROFIT ON PLASTER PER CENT. TO SALES 20.		———
		$2,710.00
Returns and Allowances		100.00
		———
TOTAL GROSS PROFIT		$2,610.00
PER CENT. TO SALES 20.		
EXPENSES		
YARD		
Labor, yardmen, No. 5002	$418.25	
Fire insurance, No. 5042	38.50	
Taxes, No. 5044	33.05	
Depreciation, No. 5046	183.35	
Unclassified, No. 5081	1.00	
TOTAL YARD EXPENSES	———	$674.15
DELIVERY		
Labor, truck drivers, No. 6004	$338.25	
Repairs, trucks, No. 6033	.2.00	
Fire insurance No. 6042	12.15	
Taxes, No. 6044	13.75	
Depreciation, No. 6046	45.75	
Freight, No. 6047	66.21	
TOTAL DELIVERY EXPENSES	———	$478.11
SELLING		
Salesmen's salaries, No. 7051	$200.00	
Salesmen's commissions, No. 7052	100.00	
TOTAL SELLING EXPENSES	———	300.00
ADMINISTRATIVE AND GENERAL OFFICE		
Executives' salaries, No. 8061	$300.00	
Clerical salaries, No. 8062	200.00	
Postage, No. 8063	10.00	
Stationery and supplies, No. 8064	62.50	

Collection and exchange, No. 8067	1.02	
Executives' expense, No. 8070........	25.00	
Unclassified, No. 8081	2.50	
TOTAL ADMINISTRATIVE AND GENERAL OFFICE EXPENSES	————	601.02
TOTAL EXPENSES		$2,053.28
NET OPERATING PROFIT		$556.72
PER CENT. TO SALES............4.27		
OTHER INCOME		
Discount earned	$81.13	
Interest earned	17.50	
	————	98.63
		655.35
OTHER DEDUCTIONS		
Interest paid	$25.00	
Discount allowed	83.60	
	————	108.60
NET PROFIT		$546.75
PER CENT. TO SALES............4.19		

CHAPTER III

Classification of General Ledger Accounts

THE GENERAL LEDGER is the *keystone* of the entire double entry accounting system, and the various books of original entry, represented by figure 7 in Chapter II, are the *channels* thru which information flows on its way to the General Ledger. It is the master book, and in it the proprietor should be able to find the synthetic groupings of the analytical labors of the books of original entry. It is the book in which is contained one account with every value, whether positive or negative (debit or credit), which is part of the business as a whole.

It will be seen, by reference to the preceding chapter, that the books of original entry did not *sort* amounts, but merely lined them up, one after another, as the transactions crowded in during the day, too fast to be sorted.

GENERAL LEDGER "FEEDERS"

One book recorded transactions involving the receipt of cash (Cash Receipts Record, form 4, figure 7); another, disbursements of cash (Cash Disbursements Record, figure 2, form 7); another described purchases made (Accounts Payable and Distribution Record, form 1, figure 7); another contained a description of sales (Sales Analysis, figure 3, form 7); while still another contained the closing entries for the month. (General Journal, figure 5, form 7).

The reference column on each ledger page (figures 8, 9 and 10) refers to the pages of these books on which the same transactions appear, from which it is evident that these records

carry the original entries, and are merely *feeders* for the pages of the ledger.

It is seen that, by the use of these highly analytical books of original entry, the General Ledger itself, tho the most important book in double entry accounting, really requires but very little bookkeeping, since most of the entries appearing in it are made in monthly lump sum totals.

WHAT THE GENERAL LEDGER INCLUDES

The General Ledger is made up of three distinct classes of accounts, i. e., asset accounts, liability accounts and proprietary accounts.

Asset Accounts comprise:

All real values actually possessed, or earned and receivable, as well as all prepayments applicable to periods subsequent to any particular period.

Liability Accounts comprehend:

1—For Corporations:
- (A) Liabilities to outsiders.
- (B) The liability (proprietary) of the Corporation to the stockholders, at time of dissolution, for the following:
  - 1—Outstanding capital stock.
  - 2—Surplus earnings not declared in dividends.
  - 3—Unapplied reserves.

2—For Sole Proprietorships or Copartnerships:
- (A) Liabilities to outsiders.
- (B) Proprietorship accounts, comprised of:
  - 1—Investment accounts.
  - 2—Unapplied profits.
  - 3—All other credit accounts not represented by liabilities to outsiders.

ARRANGEMENT OF GENERAL LEDGER ACCOUNTS

While it has been shown that the General Ledger is simple enough from a mechanical standpoint, it should be observed that the matter of arrangement of the various accounts is of real importance.

We have seen that any General Ledger account will fall into one of the three broad classifications, viz., asset accounts, liability accounts, and proprietary accounts, and it is this primary classification which offers a suggestion as to the proper arrangement of the General Ledger.

All asset accounts should appear first, followed by liability accounts, and finally by proprietary accounts. Within these broad classifications, however, the various accounts should appear in the order of their liquidity or realizability, as shown by the following chart:

CHART OF ACCOUNTS
UNIVERSAL BUILDING MATERIAL SUPPLY CO., CHICAGO, ILL.

ASSETS

Current

Cash

Petty Cash Fund

Cash on Deposit

Notes Receivable

Customers' Notes

Less: Allowance for Doubtful Accounts

Personal Notes

Accounts Receivable

Customers' Accounts

Less: Allowance for Doubtful Accounts

Personal Accounts

Inventories

Brick

Cement

Coal

Gravel

Lath

Lime

Sand

Stone

Miscellaneous Merchandise

Investments

United States Liberty Bonds (an account with each issue)

Stocks and Bonds (an account with each class)

Permanent

Land
Buildings
  Less: Allowance for Depreciation
Warehouse and Yard Equipment
  Less: Allowance for Depreciation
Autos and Trucks
  Less: Allowance for Depreciation
Wagons
  Less: Allowance for Depreciation
Horses
  Less: Allowance for Depreciation
Harness
  Less: Allowance for Depreciation
Garage and Stable Equipment
  Less: Allowance for Depreciation
Office Furniture and Fixtures
  Less: Allowance for Depreciation

Other Assets

Good Will
Leaseholds

Deferred Charges

Unexpired Insurance
Compensation Insurance Deposit
Prepaid Interest
Supplies
Stationery and Office Supplies

Accruing Operating Expenses

Yard Expenses—Controlling Account
Delivery Expenses—Controlling Account

Accruing Commercial Expenses

Selling Expenses—Controlling Account
Administration and General Office Expenses—Controlling Account

LIABILITIES

Current

Notes Payable
  To Banks
  To Brokers
  To Vendors (Purchased Material and Supplies)
  To Individuals

Accounts Payable
To Vendors (Purchased Material and Supplies)
To Individuals

Dividends Payable
Dividends Declared on Preferred Stock
Dividends Declared on Common Stock

Accruals
Accrued Labor
Accrued Salaries
Unclaimed Pay Roll
Accrued Commissions
Accrued Taxes
Accrued Compensation Insurance
Accrued Interest

Reserves

Reserve for Income and Excess Profits Tax
Reserve for Amortization of Good Will
Reserve for Amortization of Leasehold

Nominal (Proprietary)

Capital Stock
Preferred Stock Authorized
Less: Unissued Preferred Stock
Common Stock Authorized
Less: Unissued Common Stock

Surplus
Surplus
Profit and Loss Current

INCOME AND DEDUCTIONS

Sales

Brick
Cement
Coal
Gravel
Lath
Lime
Sand
Stone
Miscellaneous
Less: Returns (an account with each Sales Classification)
Less: Allowances (an account with each Sales Classification)

Cost of Sales

Brick
Cement
Coal
Gravel
Lath
Lime
Sand
Stone
Miscellaneous

Other Income

Interest Earned
Discount Allowed

Other Deductions

Discount Earned
Interest Paid

Difference Between Sole Proprietorships or Co-partnerships and Corporations

In the case of a Sole Proprietorship or a Copartnership, the only change in the above chart would be with respect to the Nominal or Proprietary Accounts, under the "Liabilities" Classification

These would show as follows:

Nominal (Proprietary)

John Doe Investment Account
  Less: John Doe Drawing Account
Richard Roe Investment Account
  Less: Richard Roe Drawing Account
Profit and Loss Current

No Surplus Account is required, for the reason that the current profit for the year is credited in total to the proprietor's account, in the case of a Sole Proprietorship; or, in the case of a Copartnership, it is credited to each of the partners on a basis of the ratio the investment of each bears to the total investment, or upon some other equitable basis called for by the Articles of Copartnership.

INFORMATION FURNISHED BY GENERAL LEDGER

We now have the physical lay-out of the General Ledger; but this is merely a means to an end—it has no significance, or at least not much, unless the proper entries are made therein; and upon this alone in the last analysis, depends the accuracy or inaccuracy of the information which the General Ledger furnishes.

Reduced to fundamentals, this information is comprised of:

1—Amount of cash on hand and on deposit.
2—How much is due you from others—amount of receivables.
3—Amount of material inventories.
4—Amount tied-up in permanent plant and equipment.
5—Amount you owe to others—payables.
6—Value of your sales.
7—Cost value of goods sold.
8—Amount of monthly profit earned.
9—Amount of your expenses.
10—What makes up your expenses.

From almost any bookkeeping arrangement it is possible to determine items 1 and 2, 4, 5 and 6; but if this much only is known, the complete story is not told; in other words, your Ledger does not tell the whole truth.

SIGNIFICANCE OF PERPETUAL INVENTORY

Take, for example, item 3. How many building supply dealers know, from month to month, the actual amount in dollars and cents of the merchandise they are carrying in their yards?

In the perpetual inventories of material in dollars and cents which appear in the Chart of Accounts under the head of "Inventories," lie the crucial tests for accuracy of any costs which are arrived at; for, as will be seen in later chapters, labor and expense are readily proven weekly or monthly as to their accuracy in the total cost.

It is to be noted that these figures of material on hand are obtained by starting with an actual inventory, adding monthly

purchases, and deducting monthly the cost value of material sold; so that the remaining balance in any of these inventory accounts will, at the end of any monthly period, when the Balance Sheet is drawn off, give the value of merchandise on hand.

In this connection, attention is directed to the fact, proven and indisputable, that a going inventory in the General Ledger, without an accurate stock record, provides no check against losses of merchandise or materials. Then, again, some means must be provided by which an accurate unit price is applied to the quantity of the various materials sold, in order to ascertain "Cost of Goods Sold." A stock record is the only means by which such a unit price can be determined.

HOW BUSINESS FACTS ARE FURNISHED

The failure to defer certain charges, such as Unexpired Insurance, and the like; or to set up accruals, in the way of Taxes, Interest, etc.; or to apply depreciation properly, has its effect upon the truth of the story told by your General Ledger.

The matter of expenses, and the close watch you should exercise over them, will be covered in a later chapter.

Now, all these figures in your General Ledger are meaningless, unless they lead somewhere,—unless they furnish you with the facts of your business situation.

Finally, then, you should get a Balance Sheet, and Profit and Loss Statement at least monthly from the figures contained in your General Ledger. And the value of this to you lies in the ease with which you can determine the following questions:

1—What is the relation of Accounts Receivable to Accounts Payable?
2—Is the Notes Payable item too large in proportion to Capital?
3—Is capital being impaired by losses?

4—Is the amount of merchandise or goods on hand too large, or too small?

5—Is my stock moving fast enough?

6—What is the amount of my expenses, and how are they made up?

7—How much profit am I earning?

8—Is this a true statement of the condition of my business?

There is not much danger from other sources, if, having these two monthly statements, you study them intelligently; for, knowing the real truth about your financial condition, you can trim your sails according to the gale.

CHAPTER IV

Posting of General Ledger Accounts

PETTY CASH FUND

THIS ACCOUNT will be opened by the issuance of a check for an amount sufficient to cover expenditures for, say one week, for postage, express, or for any other payments which cannot conveniently be made by check.

There will be no further postings to this account until at some future time the amount of the fund is to be changed.

As disbursements are made receipts or vouchers (figure 11) will be secured for each disbursement; and at intervals, as often as may be necessary to reimburse the fund, a check will be drawn to the order of the cashier for the exact amount of the aggregate expenditures. The cashing of this check will bring the actual cash in the fund up to the original amount, and at any time the total of cash and vouchers should agree with the amount of the fund, as shown by the "Petty Cash Fund" account in the General Ledger. At the end of the month a check must be drawn covering all expenditures to date, for the reason that, unless this is done, the proper charges for the current month are not made.

At the close of each month, or whenever the fund is replenished, a "Petty Cash Summary" (Figure 12) should be made up, showing the total vouchers, the aggregate amount of same, and the total amount chargeable to each expense or other account for which payment was made.

The "Petty Cash Summary" is then to be treated as tho it were a purchase invoice and entered in the "Accounts Payable and Distribution Record" (form 1, figure 7)

CASH ON DEPOSIT

The bank account of the company will be charged, from the "Net Cash Received" column of the Cash Receipts Record (form 4, figure 7), with the total deposits for the month.

It will be credited, from the "Checks" column of the Cash Disbursements Record (form 2, figure 7), with the total withdrawals for the month.

As soon as statement is received from the bank covering the month's business, it should be checked up and a reconciliation made of the balance in the bank, as shown by the General Ledger, with the balance as shown by the bank's statement, taking into consideration outstanding checks.

NOTES RECEIVABLE—CUSTOMERS

This account will be charged, from the "General Ledger-Debits" column of the General Journal (form 5, figure 7) with each note as it is received; or, at the end of the month a summary may be made, and the aggregate notes received from customers be passed to this account in one charge.

It will be credited, from the "General Ledger-Credits" column of the Cash Receipts Record, with the payment of each note; or, at the month's end, these may be summarized, and the total credit passed in one entry.

CUSTOMERS' NOTES DISCOUNTED

This account will be credited, either singly or by summary at the end of the month, with the face value of all notes receivable discounted thru banks or brokers.

The entry will be passed thru the Cash Receipts Record, the credit being entered in the "General Ledger-Credits" column, and the corresponding charge to cash in the "Net Cash Received" column and to "Prepaid Interest" account in the General Ledger-Debits" column.

It will be debited, either singly or by summary at the end of the month, with all notes receivable for which banks or brokers have collected, the corresponding credit being passed

to "Notes Receivable" account. These entries will be made thru the "General Ledger-Debits" and the "General Ledger-Credits" columns of the General Journal.

The necessity for this account exists by reason of the fact that, when notes are discounted, the firm who discounts them is under a contingent liability to the bank for the payment of such notes until they are paid by the maker.

PERSONAL NOTES RECEIVABLE

The same procedure is followed here as in the case of Customers' Notes Receivable, except that it is advisable to set up an individual account in the General Ledger for each such note.

ACCOUNTS RECEIVABLE—CUSTOMERS

This account will be charged, at the end of the month, with the total sales billed to customers during the month. This total will be found in the "Accounts Receivable" column of the Sales Analysis (form 3, *figure* 7).

It will be credited, from the "Accounts Receivable" column of the Cash Receipts Record, with the total cash receipts from customers.

In addition to these charges and credits there may be in each month a few journal entries which affect customers' accounts.

After all postings have been made in the Customers' Ledger, the aggregate balances due from customers, as shown by Customers' Ledger, should be seen to agree with the balance of the "Accounts Receivable" account in the General Ledger.

ALLOWANCE FOR DOUBTFUL ACCOUNTS

This account should be credited, at the end of each month, thru the Accounts Payable and Distribution Record, with one-twelfth of the amount estimated to cover uncollectable accounts based on past experience, which amount should be charged to Bad Debts expense account.

As accounts subsequently prove uncollectable they should be charged to this account thru the General Journal.

ACCOUNTS RECEIVABLE—PERSONAL

A separate account will require to be opened for each individual affected.

INVENTORIES

An account will be kept with each class or kind of merchandise carried in stock. These accounts will be charged with the total purchases each month, as shown by the columns provided therefor on the Accounts Payable and Distribution Record.

They will also be charged at the close of each month, with the total cost of goods returned by customers.

They will be credited each month with the cost of all sales made, as shown by the "Cost Value" columns of the Sales Analysis.

The balances of these accounts at the end of each month represent the inventory value of merchandise on hand, and should be verified by an agreement with the "Going Inventory" or "Stock Record."

INVESTMENTS

A separate account will require to be opened for each investment that the company may make in bonds or stocks of whatever kind.

LAND

This account will be charged with the cost of all land acquired by the company; with the expenses incident to acquiring the title, such as legal fees, recording fees, etc.; with the cost of all improvements, such as grading, building roads, constructing sidewalks, curbs and gutters, excavating and piping for sewer water and gas lines, and with the.cost of securing surveys, tracings, maps, etc.

In case of the sale of any real estate, this account should be credited with the cost, as shown by the books, of the real estate so disposed of, and the difference between this cost should be debited or credited, as the case may be, to the "Surplus" account of the company.

The balance of this account is, of course, an asset, and should represent the cost of land owned by the company.

BUILDINGS

This account should be charged with the cost of buildings purchased or constructed; with the cost of all additions to buildings; with the cost of all alterations which increase the value or utility of buildings, and with the excess cost of replacing over the original cost of the part replaced.

For example, if a slate roof replaces a wooden roof, or a concrete floor a wooden floor, the difference between the two costs should be charged to this account.

This account should be credited with the value, as per books, of any property sold or destroyed. The difference between the book value and the amount realized on the sale should be charged to "Allowance for Depreciation" account. If the allowance is not sufficient, the difference should be charged to "Surplus" account.

The balance of this account is an asset, and should represent the cost of buildings owned.

WAREHOUSE AND YARD EQUIPMENT

Charge this account with the cost of all equipment and tools purchased. Credit it with the cost, as per books, of any article disposed of. The difference between the value, as per books, and the amount realized on the sale should be charged to "Allowance for Depreciation" account. The balance of this account is an asset, and should represent the cost of equipment and tools on hand.

Small or perishable tools, or tool replacements or repairs of any kind *must not* be charged to this account.

AUTOS AND TRUCKS

The cost of all automobiles and trucks should be charged to this account. It should be credited with the cost, as per books,

of any automobile or truck disposed of. The difference between the value as per books and the amount realized on the sale should be charged to "Allowance for Depreciation" account.

The balance of this account is an asset, and should represent the cost of automobiles and trucks on hand.

WAGONS

This account should be charged with all wagons purchased. It should be credited with the cost, as per books, of all wagons sold or scrapped, the difference between the book value and the amount realized being carried as a charge to "Allowance for Depreciation" account.

The balance of this account is an asset, and should represent the cost of wagons on hand.

HORSES

Charge this account with the cost of horses bought. Credit it with book value of horses sold or lost, and carry the difference between book value and the amount realized as a charge to "Allowance for Depreciation" account.

The balance of this account should represent the cost of horses on hand, and is, of course, an asset.

HARNESS

All harness purchased should be charged to this account, and harness disposed of credited to it, at its book value. The difference between the value, as per books, and the amount realized should be charged to "Allowance for Depreciation" account.

The balance of this account should represent the cost of harness on hand.

GARAGE AND STABLE EQUIPMENT

This account should be charged with all equipment purchased for garage and stable. It should be credited as per books, with

any articles disposed of. The difference between the book value and the amount realized on the sale should be charged to "Allowance for Depreciation" account.

Equipment repairs must not be charged to this account.

OFFICE FURNITURE AND FIXTURES

This account should be charged with *equipment purchased for the office.* Care should be taken to see that no office supplies are charged to this account.

ALLOWANCE FOR DEPRECIATION (AN ACCOUNT WITH EACH PERMANENT ASSET EXCEPT REAL ESTATE)

These accounts should be credited, at the close of each month, with one-twelfth of the annual depreciation, which should be charged to expense accounts, thru the Accounts Payable and Distribution Record.

When permanent assets are discarded, replaced or sold, the difference between original cost and sales price or scrap value should be charged to these accounts to the extent that depreciation has been provided.

In other words, *the sale or disposal of any permanent asset will be credited* to the particular asset account at the same value at which it was originally charged thereto. The corresponding debit will be passed to cash, for the amount of cash actually received, and to "Allowance for Depreciation" account, for the amount of depreciation set up against that particular asset; *and the difference, if any,* between the total of the debits to cash and to "Allowance for Depreciation" account and the total credit to be passed to the asset account, will be debited to "Surplus" account. Or, if the amount received in cash plus the amount set up for depreciation exceeds the cost value of the asset, the difference will be credited to "Surplus" account.

CHAPTER V

Posting to General Ledger Accounts

(Concluded)

GOOD WILL

THIS account usually represents the excess of liabilities plus capital stock and surplus over tangible assets at the time of commencement or reorganization of a business. Any subsequent charges or credits to this account should be made only on authority of the directors of the company.

LEASE HOLDS

If a lease has been purchased, the purchase price should appear on the General Ledger as an asset. This applies only in cases where a lease has been effected for a definite term of years.

UNEXPIRED INSURANCE

This account will be charged with all insurance premiums paid, and credited monthly, thru the Accounts Payable and Distribution Record, with one-twelfth of the annual expirations on insurance. Thus, the balance of this account, at the end of each month, will represent the proportion of insurance premium paid in advance.

COMPENSATION INSURANCE DEPOSIT

This account will be charged with the payment of compensation insurance premiums, and credited at the end of the period covered by debit to "Accrued Compensation Insurance" account.

PREPAID INTEREST

When notes are discounted at the bank and interest is paid in advance, the total amount of interest so paid should be charged to "Prepaid Interest" account. Then, at the end of each month, the amount of interest applicable to that month should be charged to expenses and credited to this account thru the Accounts Payable and Distribution Record.

SUPPLIES

Charge this account with the cost of all supplies purchased. Credit it, at the end of the month with the cost of supplies used, and charge expenses thru the Accounts Payable and Distribution Record.

STATIONERY AND OFFICE SUPPLIES

This account will be charged with all stationery and office supplies purchased. It will be credited, at the month's end, with the cost of such supplies used, the corresponding credit being passed to expenses thru the Accounts Payable and Distribution Record.

YARD EXPENSES—CONTROLLING ACCOUNT

This account will be charged monthly with the total of warehouse and yard expenses, from the "Yard Expenses" column of the Accounts Payable and Distribution Record.

The distribution of these expenses is shown in "Chart of Expenses Classifications." (See Chapter VI.)

The totals posted to this account must be given effect, in detail, in the Income and Expense Ledger, and the aggregate of the totals as per sub-classifications of expenses must be agreed with this account monthly.

This account will be closed into "Profit and Loss current" account at the end of the month by journal entry.

DELIVERY EXPENSES—CONTROLLING ACCOUNT

To be charged monthly with the total delivery expenses, from the "Delivery Expenses" column of the Accounts Payable and Distribution Record. The distribution of these expenses is shown on "Chart of Expense Classifications." The total of Expense Ledger classifications must be agreed with this account monthly.

At the end of the month, this account will be closed into "Profit and Loss Current" account by journal entry.

SELLING EXPENSES—CONTROLLING ACCOUNT

To be charged monthly with the total of selling expenses, from the "Selling Expense" column of the Accounts Payable and Distribution Record. The "Chart of Expense Classification" gives a distribution of these expenses. The total of Expense Ledger classifications must be agreed with this account each month.

By journal entry, at the close of the month, this account will be closed into "Profit and Loss Current" account.

ADMINISTRATION AND GENERAL OFFICE EXPENSES—CONTROLLING ACCOUNT

To be charged monthly, from the "Administrative and General Office Expenses" column of the Accounts Payable and Distribution Record, with the total of all expenses applicable to the business as a whole, and not chargeable as expenses to yard, delivery or selling, as shown by "Chart of Expense Classifications." The total of Expense Ledger classifications must be brought into agreement with this account monthly.

This account will be closed into "Profit and Loss Current" account, by means of journal entry at the end of each month.

NOTES PAYABLE—TO BANKS, BROKERS, VENDORS AND INDIVIDUALS

These accounts should be credited each month with the aggregate amount of notes payable issued. They should be charged

with the total amount paid during the month on account of notes payable.

In the case of notes payable to individuals a separate account should be opened for each individual affected.

ACCOUNTS PAYABLE—VENDORS

This account will be credited, at the end of each month, with the total of the "Accounts Payable" column on the Accounts Payable and Distribution Record, and charged with the total payments on account as shown by the "Accounts Payable" column on the Cash Disbursements Record.

The balance in this account, at the end of the month, should be verified by seeing that it agrees with the aggregate total of all open items showing on the Accounts Payable and Distribution Record; that is, a total of all items opposite which no check number has been entered in the "Paid by Check Number" column.

ACCOUNTS PAYABLE—INDIVIDUALS

It is considered advisable to set up a separate account for each individual affected.

DIVIDENDS PAYABLE—ON PREFERRED AND COMMON STOCK

When dividends are declared by the board of directors, credit these accounts, and debit "Surplus" account.

When dividends are paid these accounts are debited.

ACCRUED LABOR

This account should be charged with all checks drawn for pay-roll purposes, and credited with the total amount of labor paid for during the month, at which time this used labor is charged to expense accounts thru the "Accounts Payable" and Distribution Record.

The balance in this account represents the difference between the labor used and the labor paid for.

ACCRUED SALARIES

The same procedure applies here, as in the case of "Accrued Labor."

UNCLAIMED PAY-ROLL

This account is provided for showing in the General Ledger the liability which may exist for unclaimed wages.

ACCRUED COMMISSIONS

Credit this account, at the close of each month, with the aggregate amount of commissions earned, based upon the sales effected by salesmen.

Debit with the money paid to salesmen on account of their commissions.

ACCRUED TAXES

Credit this account monthly with one-twelfth of the annual charge for taxes, and charge this amount to expenses.

Debit with the check when issued in payment of taxes.

ACCRUED COMPENSATION INSURANCE

This account will be credited monthly with the amount of compensation insurance accrued, the corresponding charge being made to expenses.

This is arrived at by multiplying each $100.00 of pay-roll by the rate stated in the compensation insurance policy for the particular kind of labor employed.

At the end of the policy period, the total amount showing in the "Compensation Insurance Deposit" account will be credited thereto and charged to this account.

The balance therein will represent, either the additional premium due the insurance company, or the amount due you for overpayment.

ACCRUED INTEREST

This account should be credited with interest accrued monthly

on notes payable, which amount will be charged to "Interest Paid" account.

Later, when the interest payments are actually made, they will be charged to this account, and not to expense.

RESERVE FOR INCOME AND EXCESS PROFITS TAX

At the end of the year this account is credited with the amount of such taxes due the Federal Government, and the corresponding debit is passed to "Surplus" account.

When these taxes are actually paid this account is charged.

RESERVE FOR AMORTIZATION OF GOOD WILL

This account is provided in case the company wishes to write off its good will over a period of years. The corresponding charge would go to current expenses, or it might be made directly to "Surplus" account.

RESERVE FOR AMORTIZATION OF LEASE HOLD

If a lease has been purchased, and the purchase price appears in the General Ledger as an asset, the expired portion should be written off periodically.

In this case, one-twelfth of the annual expiration amount should be credited to this account each month, the corresponding debit being passed to expenses.

CAPITAL STOCK—PRFERRED AND COMMON

These accounts should at all times stand credited with the total *authorized* capital stock of the company.

In case part of the capital stock is unissued, the unissued part should be carried as a debit in the "Unissued Preferred Stock" and "Unissued Common Stock" accounts.

SURPLUS

This account is to be credited, during the year, with any revenues or receipts not applicable to the year then current.

It should be credited, at the end of the year with the net profits for the year, as shown by the "Profits and Loss Current" account.

It should be charged with all dividends declared, and with losses sustained not properly chargeable against the results of the current year.

PROFIT AND LOSS CURRENT

This account should be credited monthly with all revenues, and charged with costs of sales and expenses.

At the end of each fiscal year it should be closed into "Surplus" account.

SALES—BRICK, CEMENT, ETC.

These accounts should all be credited at the end of each month, with the total revenues for the month as shown by the various "Sale Value" columns of the Sales Analysis.

The balances should be closed into "Profit and Loss Current" account by journal entry, at the close of each month.

SALES RETURNS

These accounts, of which there is one for each "Sales" account, should be charged with the monthly amount of merchandise returned, *at the selling price,* at which time the corresponding credit is passed to individual customers' accounts.

They should be credited with the monthly amount of merchandise returned, *at the cost price,* the corresponding charge being made to the various "Inventory" accounts.

The balances will be closed into "Profit and Loss Current" account at the end of the month by journal entry.

SALES ALLOWANCES

These accounts should be charged monthly with the total

amount of sales allowances, the corresponding credits being passed to individual customer's accounts.

They will be closed into "Profit and Loss Current" account at the end of the month by journal entry.

COST OF SALES—BRICK, CEMENT, ETC.

Each of these accounts will be charged, at the end of the month, with the totals, as shown by the various "Cost Value" columns in the Sales Analysis.

At the month's end, they should all be closed into "Profit and Loss Current" account by journal entry.

INTEREST EARNED

Credit this account with income from interest earned.

It will be closed into "Profit and Loss Current" account monthly by journal entry.

DISCOUNT EARNED

Credit this account with income from purchase discount earned.

Close it into "Profit and Loss Current" account at the month's end, by journal entry.

INTEREST PAID

Charge this account with all interest paid, and with interest accrued, at the time credit is passed to the "Accrued Interest" account.

At the end of each month, this account will be closed into "Profit and Loss Current" account by journal entry.

DISCOUNT ALLOWED

Charge this account with all discounts taken by customers.

Monthly by journal entry this account will be closed into "Profit and Loss Current" account.

BALANCE SHEET AND PROFIT AND LOSS STATEMENT

It will be noted that every account in the "Income and Expense Deductions" section of the General Ledger, as shown by "Chart of Accounts" presented in Chapter III, together with all operating and commercial expenses are disclosed into "Profit and Loss Current" account at the end of each month.

By this means the profit for each month is determined, which serves to balance the "Assets" and "Liabilities" sections of the General Ledger.

A Balance Sheet and Profit and Loss Statement can then be made up, in the manner described in Chapter II, which will give a clear, concise and easily read statement of your business.

CHAPTER VI

Cost Finding—Analysis of Operating Expenses

THE OUTSTANDING INDUSTRIAL PROBLEM

Perhaps the greatest problem before American industry today is that of determining accurate costs. Generally speaking, the greatest handicap to efficient business operation is that of incomplete, inaccurate and inadequate information relative to costs and profits.

When consideration is given to the fact that the majority of business concerns are operated without adequate information relative to their conditions, and determine their true positions only at the time of the annual inventory, it is not surprising that so many firms are wrecked, but rather that so many inefficiently equipped business vessels do arrive at the port of satisfactory profits.

So long as all the competitors in a given industry are equally in the dark as regards costs, the handicap resulting from this condition is more or less uniform. But this situation is entirely changed when some of the more progressive competitors energetically and systematically undertake the introduction of reliable cost methods; and, instead of working partly by intuition, partly by guesswork and partly on incomplete and inaccurate information, operate their business on a basis of accurate and complete cost data. When this condition applies, all other things being equal, the progressive merchant cannot fail to outstrip his less efficient competitors.

THE CAUSES OF INDUSTRIAL DISTRESS

If we eliminate such considerations as lack of capital, un-

wise credits, extravagance, fraud and the like, there are three factors which, whether considered separately or in combination, can cause distress to any industry.

These are:

1—Failure to ascertain correct costs.

2—Failure to base selling prices on correct costs.

3—Lack of unifomity in costing or in bidding on work.

PRICE FIXING UNNECESSARY AS WELL AS ILLEGAL

Agreements as to price are a difficult thing to bring about. Beyond this, **fixing the price** has been declared illegal. In view of this, it is evident that some other means must be found to stabilize the selling price. A careful study of the subject leads to this conclusion:

Agreement as to price is not necessary. Comparison of bids is not altogether an essential. Combinations to control local situations is not the solution. The one way to control the situation is this: Such uniformity in ascertaining and compiling costs and figuring profits as to insure against wide differences in prices—a measure making possible stable prices without any general agreement or secret understanding.

WHAT IS A COST SYSTEM?

A cost system is a tool of management; and, like any other effective tool, it must be carefully designed to suit the particular purpose, and operated and administered with discrimination and purpose. Such a cost system will produce results which will abundantly justify, on a pure financial basis, every penny of expense involved in its installation and operation.

Time was when the proprietor knew how much money there was in the bank for him to draw upon, and that was the way he knew whether he was making money or not.

But, today, the margin is too close. The business man cannot afford to keep any considerable amount of money on hand, at least not enough so that he can afford to be without information as to just how he stands. Beyond this, he knows that, today, his cash account has little to do with his prosperity.

And it is now too late to lock the door after the horse is stolen; there are not enough horses so that he can afford to lose any.

The present day manager needs to know tomorrow where he spent the money today—needs to know, month by month, whether or not he is earning an adequate profit. Good management today, is predicated on a cost system which acts as an INSURANCE that cannot be secured in any other way.

WHAT CONSTITUTES COST?

The word "cost" is sometimes very loosely used. Used in its true sense, it properly includes the **total** expenditure of carrying on the business; not alone in money, but in materials and equipment. A cost system to be productive of dependable results must, above all else, include in its totals every single element of cost. Thus the wearing out of machinery and equipment, necessitating its final replacement, is as much an expenditure of the business as the payment of workmen's wages. If depreciation is omitted, reliable costs are not possible, nor will the anticipated net profits be nearly realized.

Likewise, the proprietor's salary should be included, for without this, even tho the earnings of the business seem sufficient, at the end of the year profits are greatly reduced by the amount withdrawn by the proprietor.

Then there are uncollectible accounts or bad debts. These are inevitable, and the business man who does not include in his costs predetermined losses thru this means is fooling himself to say the least.

There are certain expenditures that *must* be made, if the particular concern is to keep going and stay in business. It is easy for the business man to see where *some* of his money goes—in the purchase of material, labor, office salaries, rent and such like items which are obvious—but the universal experience is that it is hard for the average building supply dealer to see where so much money goes as appears to sink out of sight. The usual question at the end of the year, with those who have no means of determining their costs, is "Where have our profits gone?"

This is a question that has caused more ill feeling, and more business heart breaks, than almost anything else that enters into the operation of a business. There is something pathetic in the wild search that is so often made at the end of the year, for some large item, which supposedly *must* have been left out of the inventory, to account for the wide difference between actual and anticipated profits.

THE TRUE DEFINITION OF COST

This, then, may be stated as a definition of cost for the building supply industry: **That portion of the total expense which properly belongs to each and every class of merchandise handled constitutes cost.**

In other words, the cost problem lies in the proper apportionment or distribution of expense to departments and to lines of merchandise.

The first steps, therefore, in the proper mapping out of a cost system are to determine the logical departments of the business. In the building supply industry these are:

1—Yard and warehouse.

2—Delivery.

3—Selling.

4—Office and Adiministrative.

Each of these departments has its own expense variously

subdivided and classified as to its bearing upon the business as a whole.

By establishing the classification of expense accounts, in detail, on a basis of the various departmental divisions, a means is found by which expenses may be so analyzed as to make them readily available for application to the various products handled.

The accounts are classified or numbered to correspond with the various departments of the business. In illustration, suppose, instead of using the **names** of departments, as shown above, we use **numbers** instead. Yard and Warehouse is, therefore, department No. 1; Delivery, department No. 2; Selling, department No. 3; and Office and Administrative, department No. 4.

Our second step is likewise simple. For the expense accounts, as labor, maintenance, insurance, taxes, depreciation, etc., numbers are also substituted for names.

EXPENSE ACCOUNTS CLASSIFICATION

By combining these two we are able, with a degree of ease and facility not found otherwise, to signify any sort of expense chargeable to any particular department of the business, as illustrated by Chart of Expense Classifications (figure No. 13).

When classifying a charge for, say, repairs to warehouse, the classification would be 105, in which "1" would be the department number, and "05" the particular kind of expense chargeable to the Yard and Warehouse department. Likewise repairs to stables or garages would be classified as 205, and repairs to office buildings as 405, and so on thruout the entire range of expenses. This is an extremely simple, and yet entirely adequate, method of classifying, and makes possible a rapid sorting of charges to specific accounts and subclassifications of expense.

It will be understood that there is nothing fixed or static

in the chart presented herewith. Expense Classifications may be indefinitely extended to include any number of sub-divisions of the particular kind or class of expense; altho, in the judgment of the author, the sub-divisions presented in the chart are sufficient for all practical purposes.

These sub-divisions of expense, as 101, 201, 102, 203, etc., etc., should not be understood to be General Ledger accounts. They are used for the purpose of arriving at certain charges more readily, and for the further purpose of exercising control over the business, and are analyzed thru a subsidiary Expense Ledger, where each classification is considered as a separate account, as illustrated by figure No. 9 in Chapter II. This subsidiary ledger is used for analyzing the charges of the General Ledger controlling accounts with expenses (see figure No. 10 in Chapter II) and aside from that, does not affect the General Ledger accounts in any way.

BASIS OF COST FINDING SYSTEM

The basis of an adequate cost finding plan has now been presented.

Chapter VII will analyze and explain each expense account shown by figure No. 13.

Subsequent Chapters will present the means by which departmental costs are connected with the various products handled, so that the profit in each class of merchandise sold may be determined.

CHAPTER VII

Classification of Expenses

There are certain expenses of doing business that *must* be paid, and the individual dealer cannot *afford* to overlook any of these in arriving at his costs. A list of the expenses that make up costs in the building supply industry, variously subdivided as to particular expense items, and as to departments of the business, was presented in a Chart of Expense Classification in Chapter VI. We have now to consider, in detail, the charges to each of the accounts shown thereon.

LABOR

While it is not at all possible to classify labor, in and of itself, as a commodity, attention is directed to the circumstance that it is purchased and paid for precisely like a commodity.

A ton of coal or a thousand brick are purchased at so much per ton or per thousand; an hour of labor, at so much per hour. If the hour of labor is expended in unloading the thousand brick, the cost of the brick is added to by the precise amount of money paid for the hour of labor. In other words, when the thousand brick are sold, the sales price must be large enough to cover the first cost of the brick, plus the labor of handling, if it is expected to so much as break even on the deal. This will hold true, not alone with respect to labor, but also with respect to every other element of expense which affects the receiving, storing, handling, selling and delivery of brick, or of any other product in which you deal.

Labor expense is made up of all the miscellaneous labor employed in the business, such as foremen, yardmen, teamsters and truck drivers.

This expense is variously distributed to both the Yard and Warehouse, and Delivery departments, depending upon the par-

ticular department in which the individual workman is employed.

MAINTENANCE

Maintenance represents the necessary expenditure in the way of upkeep. Repairs made to buildings, equipment, wagons and trucks, in order that their original efficiency may be maintained, together with other expenditures for feed, gasoline and oil, tires, veterinary services, etc., are all maintenance charges and should be charged to the various maintenance accounts as shown by the Chart of Expense Classifications.

Repairs to buildings and repairs to equipment affect Yard and Warehouse, Delivery and Office and Administrative departments; supplies and expense both Yard and Warehouse, and Delivery departments, while the balance of maintenance items are charged to Delivery department only.

INSURANCE

Insurance is a prepaid item, or deferred charge. The account in the General Ledger is known as "Unexpired Insurance."

Fire and tornado insurance is based on the valuation of buildings, equipment and merchandise on hand at a certain rate per $1,000.00 of value, which varies according to different industries.

A low insurance rate is indicative of a properly constructed building, as well as one in which a sprinkler system is installed; a high insurance rate for contrary reasons.

Where buildings are rented, insurance would be carried on equipment and merchandise only.

One twelfth of the annual expirations on insurance will be charged, *monthly*, to "Fire and Tornado" insurance expense, and credited to "Unexpired Insurance" account in the General Ledger.

Liability Insurance is a prepaid item. The account in the General Ledger is known as "Compensation Insurance De-

posit," and generally includes both liability insurance and compensation insurance.

This insurance is based on a certain rate per $100.00 of payroll, the total payroll for six months, or a year, being estimated in advance, for purposes of premium computation; later, when the actual amount paid in wages is determined, an adjustment is made as between the estimated and actual amount.

Each month the actual amount of labor consumed is computed at the liability insurance rate or rates per $100.00. The result is charged to "Liability" insurance expense and credited to "Accrued Compensation Insurance" account in the General Ledger. At the end of the six months, or annual period, the "Compensation Insurance Deposit" account is balanced off against the "Accrued Compensation Insurance" account, and the difference, either debit or credit, represents the adjustment necessary to be made with the insurance company.

These items affect both the Yard and Warehouse, and Delivery departments.

TAXES

This is an accrual (the reverse of a prepaid or deferred item). Liabilities accrued, but not due, are recorded, so that the charges represented by them may be taken into account as an expense during the period in which they originate.

A certain amount, therefore, based on the experience of past years, is credited to "Accrued Taxes" account in the General Ledger and charged to expense, *monthly*.

For example, if it were found that taxes to the amount of $1,200.00 had been paid the previous year, $100.00 would be accrued each month.

Taxes are assessed on the value of the land, buildings, equipment and merchandise; or, if the plant is rented, on equipment and materials only.

The amount varies, in different localities, with the tax rate applicable, and the date upon which liability for taxes arises

depends upon the provisions of the statutes regulating the same.

Yard and Warehouse, and Delivery departments are both affected by Real and Personal Taxes, while Corporate Taxes affect Office and Administrative only.

DEPRECIATION

Repairs alone will not keep buildings and equipment in their original condition. Inevitably the time comes, when, no matter how carefully they have been repaired, a particular wagon, or truck, or any other piece of equipment must be *replaced* by a new one, and a particular building torn down and a new one erected.

Hence the need for what is termed "Depreciation." Over the years when the original building or equipment is in use, a sufficient sum *must* be set aside *yearly* to cover the cost of *replacement* with a new one.

There are four causes for depreciation:

1—Property depreciates as a result of its normal use.

2—Property depreciates as a result of age and physical decay.

3—Property depreciates due to the fact that certain of its component elements become inadequate to serve the purpose for which they were originally installed.

4—Property depreciates because certain of its parts, such as equipment, become obsolete.

The importance of this subject of depreciation can hardly be exaggerated. Any proprietor or manager who loses sight of the fact that his equipment, *no matter how well it may be kept in repair,* is constantly lessened in value, will some day be confronted with a very serious problem.

An "Allowance for Depreciation" account is therefore set up for each class of permanent asset except land, into which is credited, *monthly*, one-twelfth of the annual depreciation of

the asset, the corresponding debit being charged to the various classifications of "Depreciation" expense.

Building and equipment depreciation is a part of the costs of both the Yard and Warehouse, and Delivery departments, while the balance of depreciation items affect Delivery department only.

RULES FOR MAINTENANCE AND DEPRECIATION

That the principles of maintenance and depreciation may be clearly grasped, the following rules are laid down:

1—The original cost of the asset, together with the repairs and upkeep of the asset, are a proper charge to expense during the life of the asset.

2—These two items of depreciation and maintenance must be so spread over the entire life of the asset, to insure to each accounting period its proper proportion.

RENT

When the plant is rented, the rental charge is properly included as a part of the expense, and the proper proportion of such annual rental should be charged to expense, *monthly*.

In this case there would, of course, be no taxes, insurance, or depreciation to be figured on the buildings.

In this connection attention is directed to the fact that insurance, taxes, depreciation and repairs on the plant owned by the building supply dealer takes the place of rental.

All four departmental divisions of the business are affected by this expense.

TEAM AND TRUCK HIRE

This expense comprises all expenditures for teaming or hauling done by other than the teaming equipment owned by the business.

This item affects delivery costs only.

EXECUTIVE SALARIES

The salaries paid to executives, managers or *proprietors* make up this expense.

It should not be overlooked that, even tho a particular business is being operated as a Sole Proprietorship, or as a Co-partnership, the proprietor or proprietors should charge to expense, monthly, the amount of money they withdraw from the business.

Executives' salaries are, in most cases, both a selling expense and an administrative expense; that is to say, that the time of the individual executive is generally divided between administrative and selling functions.

OFFICE SALARIES

This expense is made up of all salaries paid to office or clerical help, and is wholly an office and administrative charge.

SALESMEN'S SALARIES

All salaries paid to salesmen are included in this expense, which is a charge to selling only.

COMMISSIONS

When commissions are paid to salesmen (or to agents), the amount of such commissions, *as they accrue,* make up the total of this expense.

Note the phrase, "as they accrue." By this is meant that this expense should not be charged with commissions, *when such commissions are paid;* but, rather, that commissions should be figured monthly, "Accrued Commissions" account in the General Ledger credited with the total amount of commissions *due,* and the corresponding charge made to expense. When payment is made "Accrued Commissions" account is charged.

This is a selling item.

AUTO EXPENSE

This expense is made up by expenditures for gasoline, oil, tires, repairs, etc. for automobiles operated by the business. In most cases it is a selling expense, and has been so shown on the Chart of Expense Classifications.

ADVERTISING

All expenditures for advertising make up the total of this expense.

By advertising is meant such copy, signs or other media as may be prepared and used for the purpose of informing the buying public what kinds of merchandise the particular concern deals in—in other words, any space which is used for general publicity purposes.

Help wanted advertisements, space paid for in church or charity organization publications, and the like, should *not* be charged to this account.

This item affects selling costs alone.

TRAVELING EXPENSE

All railroad and pullman fares, taxi or bus fares, hotel bills, meals, tips, in short, all general out-of-pocket expenditures made by executives and salesmen in traveling are included in this expense.

Traveling expenses are, in most cases, both a selling expense and an administrative expense.

POSTAGE

This expense is made up of all postage purchased, and is an Office and Administrative item.

TELEPHONE AND TELEGRAPH

All telephone bills, and the cost of all telegrams make up the total of this expense.

Care should be exercised to see that the current month's

bills for telephone and telegrams are charged to this expense for the same month.

Office and Administrative department alone is affected by this expense.

WATER, FUEL AND LIGHT

This is made up of all bills for water, fuel and light.

In the case of fuel used from the supply on hand for sales purposes, some means should be taken of determining the value of the fuel so used each month, in order that credit may be passed to the "Inventory" account, and the corresponding charge made to expense.

These items affect Office and Administrative expense only.

CREDIT AND COLLECTIONS

The expense in connection with collecting outstanding accounts and notes receivable, together with such expenditures as are made for credit information purposes, make up this item.

It is an Office and Administrative cost.

DUES AND SUBSCRIPTIONS

Association or other dues and fees, and subscriptions to trade or technical journals make up this expense.

It should be borne in mind that subscriptions to charity are *not* chargeable to this account.

This is an Office and Administrative cost.

LEGAL AND PROFESSIONAL SERVICES

This expense is comprised of attorney's fees, auditors' and accountants' fees, and the expenditures in connection with any other professional service.

Office and Administrative department alone is affected by this item.

BAD DEBTS

Considering that losses from bad debts, or uncollectible accounts, during the last decade have approximated two billion dollars, the business man who does not include losses of this character in his expenses is much more of an optimist than he can well afford to be.

Business as a whole is done on a credit basis; and, due to the very nature of credit extension, every concern has some uncollectible accounts.

Provision for such bad debts should be made each month, by crediting "Allowance for Doubtful Accounts" account in the General Ledger and charging "Bad Debts" expense with the estimated monthly loss due to uncollectible accounts. This estimate is based upon the experience of past years.

As soon as an account is known to be irretrievably bad, it is written off against the "Allowance for Doubtful Accounts" account.

This expense item is an Office and Administrative cost.

UNCLASSIFIED

This is not intended, and should not be used, as a dumping place for miscellaneous expenses. All expenses should be closely analyzed and charged to the various subclassifications provided by "Chart of Expense Classifications."

This means that practically all of the miscellaneous items making up the total expense can and should be charged to some particular expense classification.

However, there will be, in most cases, some expenses, *negligible in amount,* for which no specific account has been provided. Such items are to be charged to "Unclassified."

This expense will generally affect all four departmental divisions of the business.

NON-OPERATING EXPENDITURES

It should be borne in mind that the expenses incurred in the *operation* of a business should not be confused with any other expenditures.

For this reason interest on borrowed money, or cash discounts to customers, are not considered as expenses which affect costs, since such disbursements represent charge against income.

Conversely, interest on bank balances, purchase discounts, dividends from securities, and the like, should not be treated as income derived from the merchandising activities of the business, but as income from capital.

CHAPTER VIII

Departmental Distribution of Expenses

HAVING DETERMINED the various constituents of expense as a whole, our next step is to consider the correct application of such expense. **The means whereby expense is applied to the various products handled will be fully treated in Chapter IX.** In the meanwhile attention is directed to the proper bases for correctly distributing each and every expense to the various departments of the business.

DEPARTMENTALIZATION

Each department of a concern is, in effect, a small business, separate and distinct, and should be so treated in the cost finding arrangement.

The great secret of correct cost finding lies in *departmentalization.* Every step in the merchandising process must have its own clearly defined sphere.

Each department has its own expense, has its own particular functions to perform in the merchandising activities, and is, to all intents and purposes, a *separate and distinct* little business.

Departmentalizing is merely localizing expenses to certain divisions of the business, the various departments being so planned that they represent some distinct division of the whole, which is so different in its operations from other divisions that it merits separate treatment.

LABOR

The time of foremen will be charged directly to the particular department in which the individual foreman is engaged. In other words, if the entire time of one foreman is given to

the Yard and Warehouse department, the total amount of his remuneration will be charged to that department; if, however, both the Yard and Warehouse, and Delivery departments are supervised by a single foreman, his time must be distributed to both departments on a basis of the amount of supervision given to each.

The labor of yardmen is, of course, charged directly to the Yard and Warehouse departments; while the time of teamsters and truckdrivers goes to Delivery department.

In case a workman spends his time in both the Yard and Warehouse, and Delivery departments, his wages should be distributed to both departments on a basis of the amount of time spent in each.

MAINTENANCE

Repairs to buildings will be distributed to Yard and Warehouse, Delivery, and Office and Administrative departments on a basis of floor space occupied by each.

Repairs to equipment will be distributed to the same three departments on a basis of the value of the equipment in each, provided it is not considered advisable to make these charges direct on a basis of the time spent by the firm's workmen and the invoices from outside concerns for work of this character.

Expenses incurred in connection with repairs to wagon and trucks, feed, shoeing, veterinary, gasoline and oil, truck licenses and tires will all be charged directly to Delivery department on a basis of purchase invoices rendered by the vendors. If repairs to wagons and trucks are made by the firm's workmen, the time spent on the particular work should be used as the basis for charging the labor, while the materials used should be charged on a basis of purchase invoices.

Supplies and expense may be distributed to the Yard and Warehouse, and Delivery departments on a basis of purchase invoices, where such supplies are purchased in limited quantities, the "nature" of the supplies themselves being relied upon to give an approximately correct distribution to departments.

In case a stock of supplies is kept on hand, it is considered advisable to carry supplies as a deferred charge, (see Chart of Accounts in Chapter III) crediting "Supplies" account in the General Ledger and charging expense with the amount of such supplies used each month.

INSURANCE

Insurance on buildings is distributed to the Yard and Warehouse, and Delivery departments on a basis of the floor space occupied by each, *that on equipment* on a basis of the value of equipment in each; while insurance on stock of merchandise is charged to Yard and Warehouse department only.

Inasmuch as the cost of liability and compensation insurance is a direct charge against the labor used in the business,—the premium paid being based upon a certain rate per $100.00 of payroll—it is readily seen that it is not difficult to charge this directly to the department to which it applies, on a basis of the value of the labor used in each department.

TAXES

The distribution of taxes on real estate is made to the Yard and Warehouse, and Delivery departments on a basis of floor space utilized by each, and *personal property taxes* on equipment should go to these departments on a basis of the value of equipment in each. Personal property taxes on merchandise on hand is charged entirely to Yard and Warehouse department. *Corporate taxes* are a direct charge to Office and Administrative department.

DEPRECIATION

Building depreciation is a charge to the Yard and Warehouse, and Delivery departments on a basis of the floor space utilized by each; and *equipment depreciation* on a basis of the value of equipment in each.

Depreciation of horses, wagons, and trucks is a direct charge to Delivery department only.

RENT

If the building or buildings in which the business is located is rented or leased, instead of being owned, the accrued rental is, of course, a proper charge to expense.

This should be distributed to the four departments on a basis of floor space occupied.

TEAM AND TRUCK HIRE

This expense is chargeable to Delivery department on a basis of invoices rendered by public truckmen.

By keeping such expense separate in a classification by itself, two purposes are served; i. e., the cost of such outside teaming is ascertained; and the expenses in connection with the firm's own teaming operations can then be used to obtain definite information as to the cost, say, per yard of material, for gasoline and oil, tires, repairs to trucks and wagons, feed, shoeing, veterinary services, and the like.

EXECUTIVE SALARIES

In most cases, this is both a Selling and an Office and Administrative expense, due to the circumstance that the proprietor, manager or other executive divides his attention between these two departments of the business activity. In some cases, also, the proprietor or manager might give considerable time to the operating end of the business, but it is not considered advisable or necessary that any part of this expense be distributed to Yard and Warehouse, and Delivery departments.

Distribution to the Selling, and Office and Administrative departments will be made on a basis of the amount of time given to each.

OFFICE SALARIES

All salaries paid to bookkeepers, clerks, stenographers, or other office employees are charged directly to Office and Administrative department.

SALESMEN'S SALARIES

This expense is a direct charge to Selling department.

In case any employe divides his time between office work and selling, it is considered advisable to prorate his salary to both Selling, and Office and Administrative departments on a basis of the time given to each. This will apply, as well, to office workers, some parts of whose time is given to selling.

COMMISSIONS

Selling department is charged with the whole of this expense, *as it accrues,* and not as it is paid. For further description as to the manner in which commissions are accrued, see subclassification "Commissions" in Chapter VII.

AUTO EXPENSE

The "Chart of Expense Classifications" shows this expense as a charge against Selling department, upon the assumption that the firm's automobiles will be used, at least largely, in selling activities.

If, however, they are used to any large extent, by executives or others, for any purpose except to make sales, the expense in connection with their upkeep should be divided between Selling, and Office and Administrative departments on a basis of the use by each.

ADVERTISING

This expense is incurred for the sole purpose of acquainting the buying public with the firm's merchandise, and is, therefore directly chargeable to the Selling department.

TRAVELING EXPENSE

Expenses of this character are distributed to both the Selling, and Office and Administrative departments on the following basis: If incurred by salesmen or executives in selling activities, they are to be charged to Selling department; if incurred

in any other activity of the business, Office and Administrative department should be charged.

POSTAGE

This is an Office and Administrative department charge.

TELEPHONE AND TELEGRAPH

Office and Administrative department should be charged with the total of this expense.

WATER, FUEL AND LIGHT

The total of these charges should be made to Office and Administrative department.

CREDIT AND COLLECTIONS

This expense is properly chargeable only to Office and Administrative department.

DUES AND SUBSCRIPTIONS

This is a charge against Office and Administrative department.

LEGAL AND PROFESSIONAL SERVICES

Expenses in connection with legal and professional services are a direct charge against Office and Administrative department.

BAD DEBTS

Office and Administrative department will be charged with the total of this expense.

UNCLASSIFIED

Any expenses incurred in the operation of the business, for which a specific classification has not been provided, will be treated as unclassified, and distributed to the four departments of the business by an analysis, to determine to what particular

department they apply. In this case the nature of the expenses themselves will serve to give a clear idea as to where and for what purpose they were used.

INSTRUCTIONS REGARDING "TIME" BASIS

It will be observed that various references have been made to "time" as the basis for distributing certain expenses to departments.

In such cases, it will always be advisable to obtain the *actual* time spent, if it is possible to do so; however, if this is not practicable, an estimate of the amount of time spent in each department may be used instead.

CHAPTER IX

Applying Expenses to Sales

THREE GROUPS OF DELIVERIES

THE various commodities dealt in by building supply dealers are delivered to customers in such manner that they naturally fall into three distinct and separate groups.

These are:

1—Yard Sales:

Material received, unloaded and stored in warehouse or yard, and delivered to customers therefrom.

2—Indirect Shipments:

Material received in carlots and delivered to customers from car (without being handled thru warehouse).

3—Direct Shipments:

Carlot shipments direct from manufacturer to customers.

ALL SALES NOT CHARGEABLE WITH SAME EXPENSE

Each of these three broad classifications of sales should bear its proper proportion of the entire operating expenses of the business.

It is evident that the cost of merchandising builders' supplies will vary as does the method of delivery. The fact that carlots delivered direct from cars to customers cost less to handle than smaller quantities delivered from yard or warehouse is unquestionable, due to the circumstance that no Yard or Warehouse expense is chargeable against them. Likewise direct shipments from manufacturer to consumer, which require no physical handling by the dealer, cannot properly be charged with either Yard and Warehouse or delivery expense.

Our next step, therefore, is to determine proper bases

for applying the total expenses of each of the four departments of the business to the three general divisions of sales.

YARD AND WAREHOUSE EXPENSES

Since all the expense of the Yard and Warehouse department are incurred in connection with receiving, unloading and storing material, the total of these expenses is properly chargeable only to such sales as are represented by deliveries from the yard and warehouse.

A "Tonnage Record of Material Sold" (Fig. 14) will be maintained, which will yield valuable and necessary information in connection with the various classifications of sales falling within the three general divisions. The names of the specific materials delivered from the yard or warehouse will be written in the blank spaces at the top of the various columns, the weight as shown by delivery tickets being entered in the particular column to which it applies. Thus, at the end of each month, the totals of the various columns will furnish the aggregate tonnage of each and every kind of commodity sold and delivered from the yard or warehouse during the same month.

DELIVERY EXPENSES

Yard Sales and Indirect Shipments are both chargeable with delivery expenses. A "Tonnage Record of Material Sold" will be maintained for Indirect Shipments, similar to that for Yard Sales, and the total expense of the Delivery department will be prorated to both Yard Sales and Indirect Shipments in the ratio that the tonnage of each bears to the total tonnage.

SELLING EXPENSES

It is recognized that any basis which may be selected for application of selling expenses must be more or less arbitrary.

However, it is logical to assume that, generally speaking, it will require practically the same effort to consummate the sale of a small lot of material, as it will the sale of a large lot. In other words, the expense incurred in obtaining orders is uniformly the same for all orders, regardless of the quantity or value of the material which they represent.

This being accepted, it is evident that the selling cost per $1 of sales will be greater on material sold in small quantities than on material sold in carlots. From this it is naturally to be concluded that a distribution based on value of sales would not be equitable; but that, on the other hand, the number of orders provides the more nearly correct basis.

Hence, this expense will be distributed on the basis of the number of orders handled for Yard Sales, Indirect Shipments and Direct Shipments. An order is understood to represent an individual shipment. Where an original order is in part back ordered, or shipped in installments, each shipment is considered as an individual order for this purpose.

The information for this distribution will be obtained from a count made of the invoices issued in connection with Yard Sales, Indirect Shipments and Direct Shipments.

OFFICE AND ADMINISTRATIVE EXPENSES

This expense is not confined to any particular activity, but applies as a whole. It is the general supervision or general management expense of the business, and is usually regulated by and is consistent with the size of the business, which, in turn, is indicated by the volume of business done or of sales made.

Because of this, the total office and administrative expense should be distributed on a basis of sales value. In other words, the total of this expense will be applied to the

three divisions of sales in the ratio that the value of the sales of each bears to the total value of all sales.

The information for this distribution will be obtained from the sales analysis.

ILLUSTRATION OF EXPENSE APPLICATION

In order to illustrate the application of the expenses of the four general departments of the business to the three general divisions of sales, a typical Statement of Expense Distribution is presented on the opposite page.

Having worked up Statement of Expense Distribution, we are now in a position to compile a Profit and Loss Statement by means of which the profit existing in the three divisions of sales is determined.

ASCERTAINING PROFIT OR LOSS FOR SPECIFIC COMMODITIES

It is, of course, possible to analyze sales further than is shown by Profit and Loss Statement (page 86); as, for instance, to determine the sale of each commodity or of several classes of commodities. And if a Sales Analysis (Form 3, Fig. 7, in Chapter II) is kept for each of the three general divisions of sales, it becomes a simple matter to determine the profit or loss in each particular sales classification.

This will be accomplished by showing sales and cost of sales for each separate classification, as Brick, Cement, Lime, etc., for each of the three general divisions; that is, Yard Sales, Indirect Shipment and Direct Shipments. The gross profit will then be brought down for each, following which expense will be applied to the particular classification, in order to determine the net profit existing in each commodity.

Expenses will be applied to the particular sales classification, under this method, by using the per cent. of expense to net sales worked out on the "Statement of Expense Distribution." The net sales value of each commodity sold

STATEMENT OF EXPENSE DISTRIBUTION
UNIVERSAL BUILDING MATERIAL SUPPLY CO.

Expenses	Yard Sales	Indirect Shipments	Direct Shipments	Total
YARD AND WAREHOUSE				$ 7,000.00
BASIS—ALL TO YARD SALES	$ 7,000.00			
DELIVERY				8,900.00
BASIS—TONNAGE SOLD				
Yard Sales 60%	5,340.00			
Indirect Shipments 40%		$ 3,560.00		
SELLING				7,400.00
BASIS—NUMBER OF ORDERS				
Yard Sales 62%	4,588.00			
Indirect Shipments 11%		814.00		
Direct Shipments 27%			$ 1,998.00	
OFFICE AND ADMINISTRATIVE				15,600.00
BASIS—SALES VALUE				
Yard Sales $57,200.00 = 29.41%	4,587.96			
Indirect Shipments $38,800.00 = 19.95%		3,112.20		
Direct Shipments $98,500.00 = 50.64%			7,899.84	
TOTAL OPERATING EXPENSE	$21,515.96	$ 7,486.20	$ 9,897.84	$ 38,900.00
NET SALES	57,200.00	38,800.00	98,500.00	194,500.00
PER CENT. OF GROSS PROFIT TO NET SALES	37.615%	19.294%	10.048%	20%

PROFIT AND LOSS STATEMENT
UNIVERSAL BUILDING MATERIAL SUPPLY COMPANY

	Yard Sales	Indirect Shipments	Direct Shipments	Total
SALES				
Gross	$60,000.00	$40,000.00	$100,000.00	$200,000.00
LESS: Returns	2,800.00	1,200.00	1,500.00	5,500.00
NET SALES	$57,200.00	$38,800.00	$ 98,500.00	$194,500.00
COST OF SALES	27,750.00	26,600.00	81,800.00	136,150.00
GROSS PROFIT	$29,450.00	$12,200.00	$ 16,700.00	$ 58,350.00
PER CENT. OF GROSS PROFIT TO NET SALES	51.311%	31.443%	16.954%	30%
EXPENSES				
Yard and Warehouse	$ 7,000.00	....	....	$ 7,000.00
Delivery	5,340.00	$ 3,560.00	....	8,900.00
Selling	4,588.00	814.00	$ 1,998.00	7,400.00
Office and Administrative	4,587.96	3,112.20	7,899.84	15,600.00
TOTAL EXPENSE	$21,515.96	$ 7,486.20	$ 9,897.84	$ 38,900.00
PER CENT. OF EXPENSE TO NET SALES	37.615%	19,294%	10.048%	20%
NET PROFIT IN MERCHANDISING	$ 7,934.04	$ 4,713.80	$ 6,802.16	$ 19,450.00
PER CENT. OF NET PROFIT TO NET SALES	13.871%	12.149%	6.906%	10%
OTHER INCOME				
Interest Earned	....	....	....	$ 862.00
Discount Earned	....	....	....	3,850.00
OTHER DEDUCTIONS				$ 24,162.00
Interest Paid	....	....	....	520.00
Discount Allowed	....	....	....	1,500.00
TOTAL PROFIT	....	....	....	$ 22,142.00

during an accounting period being multiplied by the expense percentage will furnish the amount of expense to be applied to the individual sales classification.

In illustration of this, let it be assumed that the sales, say, Brick, for a certain month were as follows, within the three general divisions:

Yard Sales	$20,000.00
Indirect Shipments	10,000.00
Direct Shipments	30,000.00

Let us further assume that the cost of brick sold were:

Yard Sales	$12,000.00
Indirect Shipments	7,000.00
Direct Shipments	25,200.00

The Profit and Loss Statement would then be made up in the following manner, for these particular sales:

Brick Sales—Yard	$20,000.00	
LESS: Cost of Brick Sold	12,000.00	
GROSS PROFIT	$ 8,000.00	
Expenses: 37.615 Per Cent. of Sales	7,523.00	
NET PROFIT		$ 477.00
Brick Sales—Indirect	$10,000.00	
LESS: Cost of Brick Sold	7,000.00	
GROSS PROFIT	3,000.00	
Expenses: 19.294 Per Cent. of Sales	1,929.40	
NET PROFIT		$1,070.60
Brick Sales—Direct	$30,000.00	
LESS: Cost of Brick Sold	25,200.00	
GROSS PROFIT	4,800.00	
Expenses: 10.048 Per Cent. of Sales	3,014.40	
NET PROFIT		$1,785.60

ACCOUNTING FOR CEMENT SACKS

In the treatment of transactions arising from trading in cloth cement sacks, two inventory accounts should be set up, one representing the value of sacks on hand filled with cement, and the other the value of empty sacks on hand.

The "Filled Sacks" inventory account will be charged with the value of sacks represented in purchases of cement from manufacturers, and credited with the value of sacks when cement is sold to customers. The balance remaining in this account will represent the value of sacks on hand containing cement.

The "Empty Sacks" inventory account will be charged with the amount allowed to customers for empty sacks returned by them, and will be credited with the amount allowed by manufacturers for sacks returned by the dealer.

The balance remaining in this account represents, theoretically, the value of empty sacks on hand; but, in practice, will be subject to an adjustment to bring it into agreement with a physical inventory taken of empty sacks on hand at the close of each accounting period. Discrepancies are certain to enter into this account, due to miscount, tearing in handling, rejection by manufacturers, and the like, resulting in a loss to the dealer. This loss is usually negligible in amount, and should be absorbed as a sundry yard expense.

VARIATIONS IN ACCOUNTING PLAN

The accounting plan presented thruout this series of articles deals with the accounting procedure of, and is applicable only to, an enterprise engaged solely in the sale and distribution of builders' supplies.

To adopt it to a concern engaged in other activities would require considerable amplification, in the way of introducing additional accounts, by means of which the accounting detail of the other department might be adequately handled.

Some firms engaged in merchandising builders' supplies handle, in addition, coal, lumber and mill work, while others operate a planing mill, or mill work factory.

ACCOUNTING FOR COAL MERCHANDISING

In the merchandising of coal, the accounting procedure is not foreign to what has been presented herein. If coal only is handled, in addition to builders' supplies, no change is necessary in the methods outlined, inasmuch as the tonnage of coal may be readily obtained, and the various expenses will be distributed and applied to this commodity in the same manner as to builders' supplies.

ACCOUNTING FOR LUMBER MERCHANDISING

Altho the tonnage of lumber and mill work handled may be computed, it is so foreign to the custom of the lumber trade to deal with lumber on any other basis than per thousand square feet, that it is doubtful if the suggestion to determine the tonnage of lumber and mill work would receive the serious consideration of the dealer who handles these commodities.

In view of this, a separate department should be set up on the "Chart of Expense Classifications" for "Lumber and Mill Work," to which all expenses applicable thereto would be charged.

The labor used in this department should be ascertained from time reports.

All other expenses would be distributed to it equitably on the various bases outlined in preceding chapters.

MILLWORK FACTORY ACCOUNTING

Those concerns which operate a mill work factory will find it necessary to establish cost finding methods particularly adapted to the planing mill industry, if it is desired to maintain a complete accounting plan.

It is unwise to assume that it is practical to systematize one part of a business only, since all departments are so closely related as to render valueless any attempt to draw a distinct line between them for accounting purposes.

CHAPTER X

Accounting for Purchases

AS ONE of the first requisites of merchandising, material must be purchased. Having been purchased, and shipment made by the vendor or seller, it must be received and stored by the dealer, to be subsequently sold.

It is with the purchasing of, receiving, storing and accounting for material that this chapter deals.

REQUEST FOR PURCHASES

Preliminary to the actual purchasing there must be shown a need for merchandise. The information that certain commodities are needed is conveyed by means of what is termed a "purchase requisition" **(figure 15).**

After this request for purchase has been made out, signed by the individual originating it, and approved by the proper authority, a purchase order is prepared, in accordance with the request, and the order is placed.

PURCHASE ORDER

The purchase order **(figures 16 and 17)** is usually a form comprising four (or more) copies, upon which the necessary details with respect to the specific order are entered. It should always bear a serial number, and a request that such order number appear on the seller's invoice.

This is necessary, in order to facilitate the settling of any questions that may arise as to the authority for a purchase, or as to the quality or quantity of goods purchased, since it is an easy matter to look up the duplicate of the purchase order, and thereby determine all the facts in relation thereto.

The printed matter on the different copies varies considerably, as will noted from the two forms illustrated. Thus the original copy is a direct order for materials, carrying on it's face

in addition to the name of the seller, certain information as to whom, where, when and how shipment is to be made. Besides this, the form bears a detachable acknowledgment of order, which, upon signature and return by the shipper, constitutes an acceptance. In any case, unless the shipper takes exception to the conditions specified, puts the purchaser upon notice of such exception, he is presumed to have accepted the order under the conditions showing on the purchase order, and can be held responsible for furnishing the goods accordingly.

SAFEGUARDING MATERIAL

The second copy is an exact duplicate of the original except in so far as the space occupied by the acknowledgment of order is concerned. This is the office or file copy, and should never be removed from this file, unless an "out card" is substituted.

The third copy is the Receiving Clerk's. This copy is usually made up with a "short" carbon so arranged that, in the body of the order, only the articles and description will show, the balance of the order being left blank, so that the Receiving Clerk may be forced to weigh, count, measure, or otherwise determine the quantity of goods received, instead of relying upon the purchase order to give him the information.

By this means a satisfactory check is maintained on the accuracy of the Receiving Clerk's work, since his report of the actual amount of goods received is checked with the duplicate purchase order in the file, and any shortages are quickly discovered and acted upon.

Material is the equivalent of money. Money is expended in its purchase. It should, therefore be guarded in much the same way as money. At the very outset—at the time of the physical receipt of the material—the actual quantity received should be determined.

The fourth copy is similar to the second copy, and is filed away in an "unfilled order file", until the goods are received when it is attached to the invoice.

Where this is impracticable, because of a number of invoices

being rendered by the seller, all of which are covered by one purchase order, it is left in the "unfilled order file", until all invoices have been received and checked against it, when it is taken out and permanently filed, or otherwise disposed of.

THE STORES LEDGER

Material having been ordered and received, the next step is to enter each item in the "Stores Record" or perpetual inventory record **(figure 18).**

It should be borne in mind that the requirements of a perpetual inventory of material are that a separate account be kept with each kind or class of material, and not alone with each class, but with each grade of each class.

For example, if a quantity of brick were received, it would not suffice to have one account only in the Stores Record covering the entire quantity, unless the brick should happen to be all of the same grade or class. It should be understood that the Stores Record is a record of all material coming into the yard or warehouse, and all material going out in the way of sales or otherwise, subdivided as to kind, grade, style, or size of material carried in stock.

STORES RECORD ACCOUNTING PROCEDURE

Each invoice covering goods purchased goes to the clerk who keeps the Stores Record, after the goods are received. From these invoices the clerk makes a debit entry in the columns headed "Received," to the proper account, showing date, order number, quantity, price, and amount.

Each sales invoice is also passed to the Stores Record Clerk, from which he makes a credit entry to the proper account, in the columns headed "Disbursed", at which time he enters on the sales invoices the cost of the goods sold. These invoices are then extended at the cost price, and entered in the "Cost Value" column of the particular class of commodity

in the Sales Analysis, as illustrated in form 3, figure 7, Chapter II.

WHAT IS COST PRICE?

The term "cost price" comprehends the following:

1—Cost as shown by price on invoice.

2—Freight inward.

Material is purchased in one of two ways; either f. o. b. point of shipment, or f. o. b. point of destination. In case material is purchased f. o. b. point of shipment, it is charged to the proper merchandise account at the invoice price, the freight inward on such material being charged to the same account. This applies to the bookkeeping procedure thru the Accounts Payable and Distributing Record, and not to the Stores Record procedure.

In handling such invoices thru the Stores Record, the freight should be added to the face value of the invoice, and a new unit price determined, before entry is made therein.

AVERAGE UNIT PRICE

At the end of the month the columns headed "Balances" are used. The total quantity disbursed is subtracted from the total quantity received, to arrive at the balance quantity. The total value disbursed is, likewise, deducted from the total value received, to determine the balance value. The balance quantity divided into the balance value will give the average price to be used for costing sales invoices for the subsequent month, and this should be determined at the end of each month.

ACCOUNTING CONTROL OVER MERCHANDISE

It will be seen from this that the accounting procedure here is nowise different from that employed in the handling of any other group of subsidiary accounts, such as, for instance, accounts receivable. We have in the Stores Record, a

subsidiary record that is handled in the same manner as an Accounts Receivable Ledger, both being controlled by an account in the General Ledger, and each explaining in detail its respective controlling account.

The Stores Record, or perpetual inventory, exercises a control over merchandise that is similar to the control exercised over cash by the Cash Receipts Record, and the Cash Disbursements Record. It prevents the waste and theft of material, as the Cash Book prevents the theft of money.

When it is considered that material is simply another name for money; that it is, in effect,—actually and practically—a better representation of wealth than money, the reason for preventing waste and theft becomes plain.

By means of the Stores Record an accounting is had with all merchandise. It is charged with all material received, and credited with all material sold or otherwise disposed of. The difference between the quantity received and the quantity disposed of must be accounted for by goods still on hand. It is evident, therefore, that, by the use of this record, a means is at hand by which the amount of any particular kind of merchandise on hand may be ascertained at any time, both as to quantity and value.

VOUCHING PURCHASE INVOICES

When purchase invoices are received, they should be certified as to receipt of goods, as to quantity received, as to price, as to extensions, and as to distribution.

The means employed to show that the goods have been received, are correct as to quantity shown on invoice, as to price, and as to money value, and are properly classified as to the particular merchandise, expense or other account to be charged, is shown by figure 19. This is a rubber stamp placed on the invoice; and the proper notations being made therein, is received by the bookkeeper as authority for accepting the invoice for entry and payment.

VARIATIONS IN MATERIAL COST

It is evident that all material is liable to fluctuation in price. Material ordered today, may be purchased at a certain price, but the pı .ce of that material purchased a month or two months hence will be either higher or lower. Speaking broadly, there is no such thing as stability in the price to be paid for material over a range of several months.

It happens, therefore, that the unit price of each lot of each class of material carried in stock will, ordinarily, vary considerably from the unit price of each and every other lot. Hence, the question naturally arises as to what price will be used in costing sales invoices.

TWO METHODS OF PRICING

There are in general use two methods of pricing, known as:

1—The "oldest price first method."
2—The "average cost method."

The first method is founded on the assumption that whatever material is sold will be drawn from the oldest lot first, so that the price paid for the oldest lot is the price placed on the sales invoices until that lot is exhausted, when the price paid for the next oldest lot is applied, and so on thru the various lots.

The second method begins by establishing the fact that each lot of each class of material is alike in all practical respects to each and every other lot, and by disregarding the fluctuation in the price paid for the particular lot as affecting the cost of the whole. In other words, when material has been purchased at different prices, the various prices are consolidated into *one average unit price*. It is this average unit price that is used in costing sales.

It may be said that, while both the above methods are in

general use, the second method gives, by far, the most accurate results; since in some cases the cost of sales would fluctuate considerably from month to month, if material were priced by the first method, thereby destroying the comparative value of the cost of sales over a range of months. This second method is illustrated in the description of the use of the columns headed "Balances" in the Stores Record.

CHAPTER XI

Accounting for Sales

IN THE SALE of his merchandise, the building supply dealer should consider it absolutely necessary to keep a credit record of his customers. These are cards arranged for visible indexes, and should be filed alphabetically in a stand or holder, as illustrated by figure 20. This is the first source of information for the credit man.

CREDIT RECORDS (FIGURE 21)

Each card contains the salient facts regarding each customer, and bears a credit limit beyond which sales should not be made. This is not a fixed line, however, beyond which there is no advance, but rather a guide for the employes of the credit department, in order that further sales may be submitted to the credit manager for approval when a customer's purchases have reached the limits set. Thus the account is always brought to the attention of the executive when it has reached a certain stage.

The second source of credit information lies in the accounts in the Customer's Ledger. In a business of any size it is, of course, impossible for the credit man to keep in touch with all accounts receiveable. Nor is it necessary that he do this. His attention is required, however, in those accounts which are overdue, and these can readily and easily be watched by looking over the statements sent out by the bookkeeper, and giving his attention to those which contain overdue items.

SHIPPING ORDERS (FIGURE 22)

When an order is received it is first checked with the credit file to determine if further credit is justified. This having been satisfactorily ascertained, all the records per-

taining to the individual order should be made out at one writing.

In the usual routine of business three copies of an order are required. These are:

1—Office copy, or permanent record, which is fixed temporarily in numerical order.

2—Shipping copy, a notice to the yard or warehouse to make shipment, and which is to be returned to the office showing actual quantities delivered.

3—Shipping copy, which is to be left with customer when goods are delivered.

The actual accounting work in connection with a sales order begins after the goods have been shipped. The shipping copy is then turned over to the billing clerk, who checks it, as to number and customer's name, with the office copy, at which time the office copy is detached from the temporary file. This temporary file, therefore, fulfills all the requirements of a register of undelivered orders, by means of which a satisfactory check is maintained over the delivery department.

The shipping copy is then priced, extended, checked as to prices and extensions, and used as the medium from which to make out the customer's invoice.

SALES INVOICES (FIGURE 23)

The invoice is made out in three copies:

1—Sales invoice, to be sent to the customer.

2—Office copy, or permanent record for the purpose of charging the customers and determining the sales.

3—Office copy, for the purpose of determining cost of sales and crediting merchandise inventories.

The first and second copies are made out completely showing sales prices, extensions and totals. The third copy, by means of a short carbon arrangement, shows all the information except prices and extensions. This copy is

used for costing sales. The merchandise items showing thereon are priced at the cost of the goods, and extensions made at these prices.

SALES ACCOUNTING ROUTINE

The first copy of the sales invoice is, as previously stated, sent to the customer, while the second and third copies are used by the bookkeeper for entry in the Sales Analysis.

Each entry is made in two ways. First, the invoice, extended at selling prices, is entered in the Sales Analysis (form 3, figure 7, Chapter II), the total face value of the invoice being charged to "Accounts Receivable" account in the column headed "Accounts Receivable, Dr.", and a distribution made to particular classes of merchandise by entry in the various columns headed "Sales Value."

Secondly, the invoice, extended at *cost* prices, is entered in the various columns headed "Cost Value", on the same line in the Sales Analysis as the original sales invoice bearing the like number. Thus, if the Sales Analysis form is drawn so as to provide a "Sales Value" and "Cost Value" column for each kind or class of merchandise dealt in, the sales as well as the cost of sales are shown by the totals of these two columns for each classification of merchandise.

Whenever several different lines of goods are dealt in, it is desirable to have the sales, as well as the purchases, kept separate for each line. There will, in all probability, be a large variation in the rates of gross profit on the different lines. Hence, by a separation of this kind, the proprietor or manager would have information furnished as to the results of the business done in each class of merchandise, which would be distinctly valuable to him.

POSTING TO CUSTOMERS' LEDGER

The sales invoice may also be used as the medium from which to post to individual Customers' Ledger accounts.

In this case the bookkeeper posts to each customer's account direct from the invoice file. It is especially desirable, if not absolutely essential, that this method be followed when bookkeeping machines are used. On the other hand, if postings to the Customers' Ledger are made by hand, it may be deemed preferable to use the Sales Analysis as the posting medium.

It should be borne in mind that a trial balance of the Customers' Ledger should be taken off each month, in order that it may be seen that the aggregate total of all the debit balances of the Customers' Ledger equal the debit balance found in the "Accounts Receivable" controlling account in the General Ledger. If these are not in agreement, the error or errors should be located and adjusted immediately.

CREDIT MEMORANDA (FIGURE 24)

It is general practice to issue a credit memorandum to customers returning goods, which may be applied in payment of purchases, or cashed upon presentation to the cashier.

In the handling of these memoranda it is necessary to bear in mind that they are to be entered in *two* values, as in the case of sales. In fact, they are handled in the same manner as sales, except that the entry in the Sales Analysis is *reversed.*

A separate Sales Analysis sheet should be set aside at the beginning of the month for this purpose, and headed "Credit Memoranda," which should *not* be used for entering sales invoices. The entry of credit memoranda on this sheet should be made in the same manner as that described for sales invoices, bearing in mind that the distribution at both selling and cost prices should be made to the various classifications of merchandise.

POSTING CREDIT MEMORANDA

At the end of the month, the total of the "Accounts Receivable" column of the Sales Analysis sheets used for the entry of credit memoranda, is posted to the *credit* of the "Accounts Receivable" account in the General Ledger, while the totals of the "Sales Value" columns under each merchandise classification are posted to the *debit* of the particular sales "Returns" account to which they apply, and the totals of the "Cost Value" columns are posted to the *credit* of such "Cost of Sales" accounts as they affect, and to the debit of the various "Inventory" accounts.

It is understood that the individual customer's account would be credited with these credit memoranda when posting to the Customers' Ledger.

Allowances to customers are also made out on credit memoranda. These are handled in the same manner as returns, except that there would be no cost value, and that particular sales "Allowances" accounts are debited, instead of "Returns" accounts as in the case of goods returned by customers. Postings would be made to the credit of individual customer's accounts as in the case of returns.

CHAPTER XII

Accounting for Coal and Lumber Departments

Building Supply News System of Bookkeeping and Cost Finding was originally designed to serve the purpose of dealers in masons' supplies alone, as contradistinguished from building supplies in their entirety, which, of course, includes such items as Lumber, Millwork, Sash and Doors, Shingles, Wood Lath. and the like.

DIFFERENCES IN UNIT OF MEASURE

Since a large number of building supply dealers carry both masons' supplies in the way of brick, cement, lime, gravel, sand, etc., and lumber and lumber products, it is considered advisable and desirable to widen the scope of the methods originally developed to include a means whereby all dealers, whether in masons' supplies alone or in the wider range of all kinds of building supplies, together with coal, can profit by the same system.

All the methods developed in the original plan are applicable in the main essentials to any dealer's business, irrespective of the range of materials handled.

The unit which more nearly met all requirements, as the one basis for expense application in the masons' supplies field, was found to be the pound or ton. On the other hand, the unit of measure hitherto applied to lumber is that of the 1,000 square feet; to shingles and lath, bundles; to posts and poles, pieces; to moldings and trim, the linear foot, and so on.

Therefore, where lumber and its products are handled in addition to masons' materials, it will be found necessary to pursue one of two methods of expense application. These two methods are:

(1) To set up two main departments of the business; i. e., "Masons' Materials" and "Lumber," with separate and distinct sub-departments of "Warehouse" and Delivery" for each of these two main divisions, and to distribute all labor and expenses accurately to both, or

(2) To reduce all materials handled to the common unit of the pound or ton.

TIME REPORTS UNNECESSARY

In the first case, it would be necessary to keep the time of yardmen and deliverymen for each of these two main departments; in other words, where the same man or men were used indiscriminately for both lumber and masons' materials, it would become necessary to establish some system of time reports, whereby the time spent in each department might be ascertained.

If this were the only way in which accurate and dependable results could be accomplished, it would be rightly considered necessary under the circumstances, even tho the effect of such a method would be to increase considerably, not alone the clerical work in the office, but also to augment the cost of handling and delivery to the exact extent that the time spent on the part of workmen in keeping their time could not be utilized in productive work.

Time reports are a necessary and indispensable part of the cost finding procedure of almost all manufacturing establishments; but, in the retailing of builders' supplies, they would fulfill no purpose consistent with simplicity, nor produce any results not yielded by a less complicated plan.

FINDING THE BEST POSSIBLE METHOD

Consequently, it is to the second method that we must look for that degree of simplicity compatible with ease and facility in handling the cost finding detail. Theoretically costs may be

kept with absolute accuracy. Practically the best costs are but a more or less accurate approximation.

It is possible, certainly, to keep time reports, and to charge every cent paid to yardmen, truckmen and teamsters, to either the masons' materials or the lumber divisions of the business, but the clerical detail required to insure accuracy would seldom if ever be justified.

Expenses in the retail building material business must be assigned by a more or less arbitrary system; and, while some methods may be more minutely accurate than others, absolute perfection is never attainable. Accuracy in clerical work, as in mechanical work, can only be obtained as a result of slow, close and expensive application, and it is unwise, extravagant and wasteful to insist upon and expect greater exactness of detail than is justified by the ultimate results sought.

Please observe that inaccurate and careless methods of determining costs are neither recommended nor condoned. When costs are secured they should be as accurate as it is feasible to make them, without spending in their preparation a sum unwarranted by the results they are expected to produce. But there can be no possible object in measuring the time of workmen between two divisions of the same business, when a similar end can be attained by simpler methods.

DETERMINING ONE UNIT OF MEASURE

In the second method we have a means, at once simple and accurate, of applying all expenses to all classes of sales, by the simple expedient of finally reducing all goods handled to a common unit of weight.

Every building supply dealer recognizes the pound or ton as the proper unit in connection with masons' materials, and when consideration is given to the matter, it will be conceded that there is no serious drawback to reducing lumber and its products to the same unit. For all practical purposes, lumber, shingles, lath, posts and poles, sash and doors, moldings and

what not, bear weight classifications upon which the shipper bases his price f. o. b. point of destination. By the application of such standard weights, a means is at hand by which to accomplish the reduction of lumber and lumber products to the common unit of pounds or tons. Where a going inventory is maintained, each specific size and grade of lumber, as well as all other materials, would have its own separate sheets in the Stores Record, so that, at the end of the month, the total footage of each kind of lumber sold could very readily be reduced to its equivalent weight.

Hence, the methods of expense distribution and application orignally worked out in Chapters VI, VII, VIII and IX, are applicable to the handling of all kinds of building materials.

REVISION OF PURCHASE AND SALES FORMS

For those concerns who deal in lumber and lumber products in addition to mason's materials, it becomes necessary to re-design two of the original forms; i. e., "Accounts Payable and Distribution Record" and "Sales Analysis."

The Accounts Payable and Distribution Record (figures 25 and 25A) is presented in its revised form, in order that the lumber dealer may set up a different range of inventory classifications than those required by such concerns as handle masons' materials only. The four departmental groups of expenses; i. e., "Yard," "Delivery," "Selling" and "Administrative and General Office" shown on this form are identical with those shown on the original Accounts Payable and Distribution Record appearing in Chapter II, "Book of Accounts." For complete description of Accounts Payable procedure please refer to the chapter above mentioned.

In the Sales Analysis (figures 26, 26A and 26B) a considerable departure from the record as originally presented has been made. Thus, the original record provided columns showing weight, sales value and cost value, for such sales classifications as Brick, Cement, Lime, etc., whereas the new record

provides a number of blank columns with sub-headings of Quantity, Sales Value and Cost Value under each.

The two master sheets of the Sales Analysis, represented by figures 26 and 26A provide eight columns for specific sales classifications, together with a miscellaneous column, intended for the purpose of entering such items of sales for which it is not deemed advisable to use a special column.

The slip sheet represented by figure 26B provides an additional eight columns (four columns on each side of the sheet) which makes the entire form exceptionally flexible where a large number of sales classifications are required. If necessary two slip sheets may be inserted between each two master sheets, thus providing columns for an aggregate of twenty-four specific sales classifications.

SUGGESTED SALES CLASSIFICATION

It will be noted that the headings of the various triple columns, with subheadings of Quantity, Sales Value and Cost Value under each, have been left blank. By so doing, each individual dealer can use his own discretion in choosing a range of sales classifications. A list of such classifications will be made up by the dealer and numbered, as illustrated by the following items, it being necessary then only to number the various triple columns in the Sales Analysis to correspond with the list, in order to designate any and all sales classifications.

1.—Common Dimension
2.—Common 1-in. Boards
3.—No. 2 Sheathing 1x4
4.—"B" Ceiling ½x4
5.—"B" Partition ¾x4
6.—"B" Flooring 1x4
7.—"B and Better" Drop Siding 1x6
8.—No. 1 Com. Drop Siding 1x6
9.—Clear Redwood Beveled Siding ½x5
10.—No. 1 Y. P. Shiplap 1x10

11.—No. 2 Y. P. Shiplap 1x10
12.—Y. P. Clear Finish
13.—Cypress Finish
14.—Shingles
15.—Lath
16.—Moldings
17.—Sash and Doors
18.—Brick
19.—Cement
20.—Lime
21.—Sand and Gravel
22.—Paint
23.—Coal
24.—Hardware

For a full and complete description of Sales Analysis procedure, see Chapter II.

CHAPTER XIII

What Is the Real Value of a Cost Accounting System?

The real value of a cost accounting system is given by Mr. Hafner in answer to this query:

What is the real purpose of a good cost system, and what it its value?

The real purpose of any adequate cost system is to analyze all the elements that make up daily business transactions.

The careful analysis of any problem is the first step towards its solution. This word "analysis" has a very definite significance. It means nothing more or less than the separation of a thing, a proposition, a problem into its component parts, the orderly classification of those parts or elements, and their thoro examination.

The analysis of all the vital facts of a business furnished by a good cost system is the preparation for future construction work; it gives us the material with which to build. From the various facts presented for our consideration we can pick the ones we wish to use. We can see just what their relation has been to all other facts—all other elements—in the past, and thus be able to avoid combinations in the future which will fail to give us the desired results. Without analysis of the problem which is before us, our approach to it is blind, and we can only follow empirical rules which are almost as likely to lead us astray as to conduct us to the desired end. Cost accounting, therefore, is the basis—the foundation—on which our business structure is built, and only as we do consistently analyze all the facts of our affairs, can we hope to erect a lasting edifice.

THE FOUR WAYS OF HANDLING BUSINESS

Any problem may be handled by one or more of the following methods:

1. By disregarding it.
2. By decison based on intuitive judgment.
3. By trial and error.
4. By knowledge based on facts.

The superiority of each of these methods over the preceding one is obvious. Exact knowledge of costs, based on the facts and figures of your business is the one best bet in securing and maintaining control over your affairs. And this sort of knowledge can come only from and thru a cost system that analyzes, step by step, all the facts about every transaction, so that you can proceed sanely, sure-footedly—with confidence.

The chief asset of any executive is his judgment, developed thru training and experience. Now, experience is not simply a living thru and observing a series of events; but it *is* the *assimilation* and *appropriation* of the *essential facts* which underlie and determine that set of happenings. And since the accuracy of the business man's judgment depends upon the assimilation of the facts of his experience, it is evident that some means must be had by which to gather and analyze the facts.

Facts and figures which will insure safety as well as progress must be gathered, stated, approved and used. Leaks must be stopped; waste eliminated; just prices determined; correct methods of financing devised; federal tax statements prepared; effective methods of managerial control put into operation. A good cost system will accomplish all this, and more. For it is, in the hands of an intelligent man, a *guaranty of profits.*

THE REASONS WHY MEN FAIL

Did you ever think how worry is eliminated when you can proceed on sure knowledge? Why does a man worry? Apply the question to any phase of life. Because he is in the dark; because he has nothing to guide him; because he *guesses.*

Every time you guess, you gamble. Every time you gamble, you worry. Every time you worry, you lose time—you lose efficiency. It takes a big man to guess and succeed. It is hazardous, and few, if any, ever make it pay in the long run.

A large number of business men fail every year. During the year 1920 the loss to creditors thru business failures amounted to over $200,000,000. These, classified by cause, stood as follows:

		Per cent.
1.	Incompetence and inexperience	43.8
2.	Lack of capital	30.3
3.	Fraud	7.0
4.	Neglect	1.7
5.	Extravagance	1.1
6.	Speculation	0.7
7.	Failures of others	1.7
8.	Unwise credits	1.3
9.	Competition	1.1
10.	Specific conditions	11.3
		100.0

From this it appears that 84.6 per cent. of all business failures for the year 1920 were directly attributable to a lack of knowledge of the *facts* of business. The causes shown by the first six items of the above list, which make up the total of 84.6 per cent. go hand in hand with the too prevalent *indisposition* on the part of business men to look squarely and resolutely at the *real state of their affairs.*

PAPER "PROFITS" BOOST NO BANK BALANCE

Instead of taking account of stock every month, or carefully inventorying his goods by some perpetual stockkeeping method, and providing for depreciation and bad debts—keeping in close touch, month by month, with his actual financial position and operating condition—the *hopeful* fool masquerading as a business man shuts his eyes and refuses to see. If he stops to take inventory, and to find out what his balance sheet shows, he

steadfastly refuses to classify his accounts receivable, figures them all good, and values his merchandise at more than it will yield. The result is that his profits, like those of the merchant who made ten thousand dollars over night by the simple expedient of marking up his goods 10 per cent., are always on paper —never in cash in the bank.

Not long ago, Frank W. Vanderlip, a leading figure in the banking world, stated that the business men of America were "economic illiterates." Whether this judgment is affirmed or denied, it must be apparent, to the most casual observer, that most of the difficulties in business are due to lack of *knowledge* —of markets, of materials, of expenses, of costs and profits. Lack of business information is the largest single cause of business incompetence or failure.

Recognition of this fact has been, with many concerns, the beginning of wisdom. The result has been a two-fold movement. The business man has turned to the expert accountant and systematizer, or else he has tried to secure, thru his *trade paper,* the means of keeping informed as to his affairs.

THE GREAT DISCOVERY—FAILURE IS PREVENTABLE

The immediate effects of this movement, so far as the Building Supply Industry is concerned, was shown by the development last year, thru the columns of Building Supply News, of an adequate and comprehensive accounting and cost finding plan for building supply dealers.

All the forms and binders for a complete and secure installation of this system are now being carried in stock by Tallman, Robbins & Co., 314 W. Superior St., Chicago. The individual retail dealer has thus a means of securing, at a nominal cost, the means whereby he may know precisely how he stands from month to month.

Everywhere the *wise* business man is recognizing that failure is *preventable.* This is the cause of the present wide-spread interest in good management. Never before, in commercial

and industrial history, have business men been so eager to secure reliable information concerning their business affairs.

For it is coming to be realized that, in business as in life, every man is the architect of his own fortune. Where there is a will in commercial matters there is a way. Business enterprises are just what proprietors and managers willfully make them. Human beings, not chance, are responsible for all industrial successes and failures. He who builds on sound information, data and statistics, builds on a secure foundation. He who is an "economic illiterate" is scheduled for the scrap heap.

The value of a good cost system, therefore, lies in the fidelity with which it presents the facts and figures regarding all the essential affairs of a business, so that the proprietor or manager may be guided in his decisions and judgments by the light of *sure knowledge.*

CHAPTER XIV

Why is a Perpetual Inventory Necessary?

That a perpetual inventory is necessary is revealed in Mr. Hafner's reply to the question:

We notice that your new system of bookkeeping and cost finding makes it necessary to keep a perpetual or going inventory. Will you please tell us why you consider this necessary, and the advantage of it?

THE MAJORITY OF RETAILERS seem slow to comprehend the fact that even tho percentage of profit on a certain article be but 10 per cent. if it is earned *often* enough, say 10 times in a year, the annual turnover on money, or rate of profit on investment, will be 100 per cent. Too many business men overlook the fact that their cost of doing business, of say 25 per cent. annually, cannot correctly be used to demand a 25 per cent. margin of profit on *each* item, because it is the percentage of profit on one sale and not on the year's investment. The vital point of comparison is how much profit can you make a dollar earn selling a given article. An article like Uneeda Biscuit, for instance, turns over 52 times a year. A dollar invested in this goods will earn the percentage of margin 52 times. Any dealer can get rich earning a 5 per cent. margin of profit on one article, if he sells it enough times; while, on the other hand, he may bankrupt himself on an article offering 100 per cent. profit if he rarely makes a sale.

FREQUENCY OF TURNOVER BASIS OF PROFIT

Quantity selling is the greatest modern profit policy. The profit on one barrel of cement, or on 1,000 brick is not much, but when this profit is multiplied by 1,000 or 5,000 or 10,000, the profit on the volume becomes considerable. In your business, I should

say that, generally speaking, you ought to depend upon multiplication of profit by frequent turnovers, rather than upon a wide margin of profit in each sale. That it is possible to do this in a way distinctly advantageous to you is, I think, evidenced by such outstanding successes as the Wm. Wrigley Co., manufacturers of chewing gum.

To accomplish the above task, we evidently must have a plan, an aim, and the mechanism whereby the aim may be attained by following the plan. Yet in putting such methods into effect, these three elements become so closely interrelated that a superficial observer may fall into a trap and accept mechanism for the plan, and its workings for an aim. Obviously, great confusion will arise in such a case when incidental and auxiliary are regarded as basic and essential. Such a "system" is bound to degenerate into tiresome and useless red-tape. Thus analyses, records and the like, while invaluable as means for the discovery of truth and of the best way of accomplishing certain results, are useless if not patiently, constantly and consistently studied, and carried out with a clear understanding of the purpose they are ultimately to serve.

SUCCESSFUL MECHANISM TO SECURE FACTS AND FIGURES

With this word of warning against what is too often the reason for the failure of adequate methods, I will outline, briefly, the mechanism that should prove successful in securing the facts and figures of business. This mechanism is, of course, set up for the purpose of, first, securing results, and second, observing results; and this process of securing results for the sake of systematic presentation should be further subdivided into three distinct steps; namely,

1—Securing the necessary knowledge.

2—Making the knowledge available.

3—Utilizing the available knowledge.

Very well, this being understood, what you need is a means of mechanism by which to accomplish the following:

1—Study of Merchandise Turnover, consisting of: Average turnover in each and every line of merchandise; analysis of principles of turnover; methods used to increase it; policies of other dealers in regard to turnover; turnover comparisons with other dealers.

2—Investigation of costs of doing business, which should comprise: Cost of doing business by lines of merchandise; study of cost factors and tendencies; comparison of costs with other dealers.

STUDY INVENTORY FIGURES

Inventory figures in any business are a worth while study, not only from the investment angle, but from that of purchases and sales; which is to say, turnover. Comparisons of purchases, sales and inventory periodically will bring out very interesting and vital facts in relation to your business, and help to maintain correct ratios. Records that show how much merchandise you have on hand, and when to buy, will enable you to keep your stock up to date, to watch the movement of the various articles carried, as well as to reduce capital tied up in inventories.

Records of this character enable the manager to watch his course. Statements and reports which show the average profit by lines and the average turnover by lines enable you to keep in the closest touch with the results being obtained.

PLAN RECORDS TO SHOW MONTHLY COMPARISON

Therefore, your records must be so planned as to show monthly comparative statements of sales, cost of sales, expenses and net profits. Unless the figures get to you in this form it is difficult to see how the outlay matches up with the amount of business done. There are but 24 hours in a day. If an idea strikes the average executive, and he has within arms reach the means of verifying its value, he settles the matter at once. But if means of verification are not at hand; if they require to be sought out

and "dug" for, he will hesitate; and as a rule he will side-track the matter in favor of other interests clamoring for attention.

A man gets into a rut of expense, and needlessly spends large sums because he does not look for a different way; therefore, anything that will help him to think, will reduce expense. Anything that will keep expense items continually before him, will help him control this part of his business. Expenses eat up a business, unless controlled and checked. Money slips away easily into a thousand channels that never cease flowing. The demands on the cash till are incessant. Unless there is vigilance, the expense outgo will exceed the income, and presently the drawer will be empty.

HOW TO CONTROL EXPENSE

Expense is best controlled by centralizing its supervision. Subject all its ramifications to some system that reduces it to this periodical scrutiny of your desk. Have them come to you worked up in the form of percentages. In keeping the various items of expense at their proper ratio, percentage statistics play an important part. Expenses, as a rule, are governed by fixed or progressive percentages. When there are abrupt variations from this rule, they are inevitably shown up conspicuously, graphically, on the percentage tables.

The advantage of such a record is manifest. All these expense items bear a mutual—a natural—relationship to the chief classification under which they are grouped—Sales. For example, once you have determined approximately the percentage office expense ought to bear to sales, you have the key to the subsequent controlling of this item. The ratio may have to be increased gradually because of increased costs, but if you do increase it you do so intelligently. You know exactly why. You do not waste brain power wondering why your selling expense is so big, or where you ought to cut. The percentage tables show you just what department is beyond its normal ratio.

All the above information, and a great deal more is furnished by the Building Supply News Cost Finding System.

CHAPTER XV

How Will Business Be Done In the Coming Years?

How business must be done in the next decade is clearly set forth in what Mr. Hafner says to the query put here:

I HAVE been very much interested in reading your Mr. Hafner's article, "Finding the Lowest Cost of Doing Business," appearing in the "Cost Question Box" department of Building Supply News. It occurs to me to ask what is your thought as to how business will have to be done in the coming years?

This is a big question—too big, in fact, to be covered in its entirety in the space at our disposal. But we should like to cover, at this time, one particular phase of the changed business situation, which it behooves dealers everywhere to understand and seriously think about.

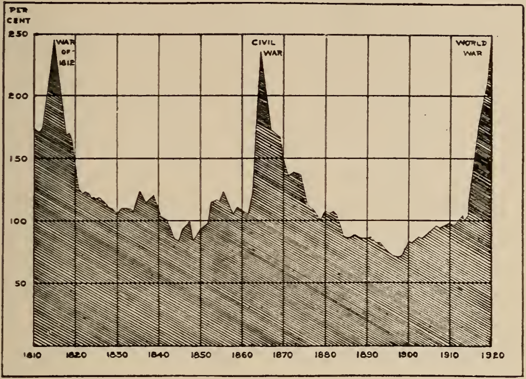
We have prepared and present herewith a chart, showing how wholesale commodity prices have varied during the eleven decades from 1910 to 1920. The chart is constructed so as to show the prices of 1913 and 1914 as being equal to 100, and those of other years as being proportionately greater or less, and is based upon figures compiled by Dr. R. G. Hurlin, Statistician of the Russell Sage Foundation.

The most significant fact revealed by this diagram, is that each of the two previous great price increases has been followed by a *thirty* year period of irregularly falling prices, and a *twenty* year period of generally rising prices.

In view of this, it is important for building supply dealers to consider whether or not we are facing a long term of falling prices, and if so, what this means for business.

TREND OF PRICES WILL BE DOWNWARD

There is every evidence that the general trend of prices will



This Chart Shows How Wholesale Commodity Prices Have Varied During the Eleven Decades from 1810 to 1920. It is Constructed So As to Show the Prices of 1913 and 1914 As Being Equal to 100, and Those of Other Years as Being Proportionately Greater or Less. The Chart is Based Upon Figures Compiled by Dr. R. G. Hurlin, Statistician of the Russell Sage Foundation.

be irregularly downward for a period of years to come, just as it was after the two earlier great increases. One reason why this may be expected is to be found in the very fact that prices have been and are high. A second reason lies in the enormous losses of lives and property during the war, with the accompanying disorganization of the world's producing power. A third reason is evident in the depreciated currencies of the world, which the stronger nations will endeavor to make more valuable by every means in their power.

For all these reasons it seems more than probable that we are in for a long period of falling prices.

CONDITIONS WHICH RESULT

In any such period, any regular payment of a fixed sum, such as the annual installment on a mortgage for instance, is harder to make each year than it was the year before. The rent is harder to pay, and the taxes are more difficult to meet. The farmer who has to pay $200 a year on a mortgage can pay it with 100 bushels of wheat when the price is $2.00 a bushel, but it takes 200 bushels when the price drops to $1.00 a bushel.

The building supply dealer finds that the value of his material shrinks while being held for sale, and that he must sell at less than he expected, or take a smaller profit than he had intended. The rent and the taxes and the wages and the depreciation and all the other expenses of doing business are in reality paid for in units of the various commodities sold, and each year it takes more and more of these commodities to pay for them.

On the other hand, in a long period of rising prices all these conditions are reversed. The annual payment is each year easier to make; the rent and the taxes are easier to pay. The dealer buys his material, and the longer he keeps it the more it is worth. He makes not only the profit he expected to make, but something in addition.

Now, it is in this sort of commercial world that America's business men have lived and worked during the rising prices of the 20 to 25 years preceding June, 1920. Optimism was the business religion. Ability to make big money easily and quickly was the god before whom business bent the knee. The man who had faith in the future, and nerve, and imagination, and was willing to take chances, was the one who received society's great rewards.

RETURN TO POST-CIVIL WAR CAUTION AND THRIFT EVIDENT

But stop and think! Our fathers lived in an entirely different business world—a business world such as all signs indicate we are now entering. Most of them had their active careers

in the long thirty-year period of falling prices following the Civil War. Caution and thrift and careful attention to details were the essentials for success.

And this, in our judgment, is the kind of business world we will live in during the next 25 years. It is going to be increasingly harder to make satisfactory profit. Only the sharpest sagacity, the most far-reaching penetration, and the soundest judgment will now enable us to discriminate between what is profitable and what is ruinous. We will *have* to base conclusions and judgments upon *knowledge* rather than upon "hunches" and guesses.

AN ADEQUATE COST SYSTEM YOUR CHART AND COMPASS

And in the struggle for lower costs during the coming 25 years, some sort of an adequate cost system *must* be the corner stone. In the mind of every sensibly ambitious and up-to-date building supply dealer, a cost system should strike the keynote. For it will prove a constant reminder of the actual facts of the business. It will point out the weak spots. It will differentiate the value of different methods. It will be a chart and a compass.

Every supply yard demands a cost system presenting regularly the facts of the situation. It must present in a proved way the complete cost of doing business. It must tell the story of the use and waste of materials. It must illustrate the turnover of stock. It must picture expenses, and their relation to sales. It must marshall facts about the profit or loss existing in each line of merchandise handled. It must be a gauge of business capacity.

HOW TO SECURE A COMPOSITE PICTURE OF THE ENTIRE INDUSTRY

But if, in addition to this, the individual dealer can study business conditions in the larger sense, and especially if he can

have some means of comparing his own business against a background of a composite picture of the industry as a whole, he can bring this broad and general information to bear in working out his particular problems.

Almost the most important single item of knowledge that a business man can have is that which tells him just how he stands in relation to business in general, and this is precisely the goal toward which Building Supply News is striving. It is our purpose to inaugurate a group and national system of retail building supply statistics currently gathered and promptly available to all dealers.

The greatest value and the most important consequence of the adoption of the Building Supply News System of Bookkeeping and Cost Finding will result from the constantly increasing use and installation of the system by the individual dealers and dealer associaton groups.

CHAPTER XVI

How to Find the Actual Cost of Doing Business

Mr. Hafner tells how to find the actual cost of doing business to a dealer who asks this:

In line with your articles on office system, I wonder if it would be possible for you to take up the question of actual cost of doing business.

My idea is this: To take a mason material business of average size, which would be one of yearly sales of $250,000.00 and outline what the capital of such business should be, stock on hand, equipment and property investment expenses, etc.

This would suffice for means of comparison with any other business in a similar line; altho some possibly would be smaller, and others larger.

There seems to be no method of telling whether a business is being conducted properly or not, inasmuch as the information in the proper form is practically impossible to get.

This, of course, is a pretty big task, but at the same time it would have a real message for Mason Material Dealers.

Here is a man who is *thinking!* A man who is thinking in terms of the *future*—who is "dipping into the future" as far as his eye can see.

If business men generally would only receive into their minds the plain thought—which is very evidently firmly planted in the mind of the writer of the letter quoted above—that the way they are doing business now is not the way business *will be done* in five or ten or fifteen years, there would be less mistakes and fewer failures.

MISTAKE OF STANDING STILL IN COST METHODS

The difficulty with most business men is that they lay their plans on a basis of business *as it is now.* Whether consciously or not, they assume that things are to remain virtually the same as they now are—same kind of railroads, same methods of

doing business, same kind of clothes, same kind of machinery, same methods in all the activities of life; thus dooming themselves to a place in the great army of the *camp followers* of progress. They place themselves entirely at the mercy of the world of the present moment, forgetful of the fact that the world of the present moment isn't going to last very long.

Very evidently the writer of the letter quoted at the outset, is projecting himself forward into the business activities of the future; is trying to get ready for business as it will be done in the next few years:

PLAN PRACTICAL IF TWO THINGS HAPPEN

And the idea he has is entirely practicable, if—

(1) Cooperation can be secured from a sufficient number of mason material dealers.

(2) These cooperators will install uniform accounting methods, so that similar data may be compiled on exactly the same lines.

This is a matter that calls for absolute frankness. Business operations are essentially scientific in character. They are obedient to economic laws. These laws are susceptible to ascertainment and statement. It is practicable, with the proper means at our disposal, to obtain definite ideas of prevailing business conditions at any given moment, and to so set them forth by graphic presentation, or otherwise, that the individual material dealer may draw reasonable conclusions regarding the result of existing conditions, and so guide his conduct accordingly.

SEVEN BENEFITS TO DEALERS FROM UNIFORM SYSTEM

One of the things that might easily be done, with great profit to building supply dealers, individually and collectively, is to work up and report fundamental statistics of the industry, such as the following:

1. Sales by commodities.
2. Cost of sales by commodities.
3. Orders received by commodities.

4. Yard and warehouse expense per ton per commodity.
5. Delivery expense per ton per commodity.
6. Selling expense per order.
7. Administrative expense per dollar of sale, etc. etc.

The broad knowledge that results from having always available assembled figures from many sources, and covering a wide area, is coming to be recognized as an essential factor in securing and maintaining control of the individual business. A composite chart often gives assurance where it is vitally needed. Suppose your business is falling off, in spite of everything you can do to prevent it. You imagine that the fault is yours, and you are tempted to cut prices radically, or to take some other drastic action, when you look at your composite report of business conditions thruout the industry, and to your surprise you find that the total business of your group, or of the entire industry, is not only falling off as your business is falling off, but that it is falling off at a faster rate than your own. Your mind is at rest. The blame for the slump is not yours. The conditions that caused it are beyond your control. Thus, the conditions that might easily have resulted in blind, cut throat competition, point the way to enlightened competition; or, as it might better be described, friendly co-operation.

On the other hand, if an examination of the facts shows the individual dealer that his business is falling off more rapidly than the total, he is awakened from a false security by the wholesome incentive to keep up with the crowd. In this way trade consciousness and industrial solidarity are promoted.

WHY SATISFACTORY COMPARISONS ARE NOT YET POSSIBLE

But our correspondent does not state what his idea is as to how this information might be secured. We have now in various forms a type of so-called business reports in the United States, which are little better than worthless in the judgment of many competent authorities. They are reports made up of opinions, impressions, conjectures—obtained often from many sources and

fused into a common whole on the theory that error cancels error. It would be a waste of time and effort, as well as an untold source of error to work up an ideal set of hypothetical figures as a guide to current business activities.

The type of business report needed should, above all things, be based on an actual ascertainment of *facts*. And these facts should be *current* facts. The business world is not attracted by *ancient history*, but is concerned only with current events. Therefore, to be productive of worthwhile results, some means should be perfected whereby actual current monthly statistics may be obtained from as many sources as practicable within the building supply industry.

And the *rub* is just there. It is a hard thing to overcome the reluctance of building supply dealers to supply data of the kind necessary for comprehensive reports of this character, for two reasons. The first is, that co-operation in reporting information entails upon the individual members of the group the keeping of a *uniform* plan of bookkeeping and cost finding. By uniformity is meant broadly, a common classification of asset and liability items in the general ledger, a common classification of expense, and a common way of distributing such expenses, to departments of the business and applying them to sales.

COST DATA THAT WILL BE OF PRIME SERVICE

The second reason is that dealers have been apparently reluctant to supply data, either because they were fearful of the result of the information which they might thus furnish to competitors, or because they did not believe that the trouble and inconvenience involved in the service was warranted.

It was for the purpose of overcoming the first difficulty that Building Supply News had a system of bookkeeping and cost finding developed for the use of building supply dealers. This system comprises the most advanced thought, both as to the methods to be used and their application to the needs of the industry. It will furnish the dealer monthly, with all the vital facts and figures of his business, and do it in a way at once

simple and comprehensive. And it is being rapidly installed in an increasingly large number of retail building supply, lumber and coal concerns.

But until a sufficient number of installations have been made to insure a fairly wide range of reports, it is not considered advisable to attempt to begin to gather information, because of the consequent loss of accuracy. A *broad* study of current business conditions is the only safe guide to the individual business. The gathering of these data is entirely feasible, and only awaits the cooperation of a reasonable number of representative dealers.

The utility of such business reports must be evident to anyone who is thinking about what might be done to improve the retail building supply industry, both individually and collectively, since they would be a very sensitive indicator of *existing* trade conditions, and reflect immediately the trend of the industry. Charts could be worked up which would show the combined figures along different lines, of all the reporting members. As a part of these the charted results of the individual members would be shown, so that each dealer could compare graphically his own business with that of the total.

DIVULGING OF CONFIDENTIAL DATA NOT AT ALL NECESSARY

The fact that summarized information is available for all, without individual names being divulged, makes it possible for each dealer to set up standards of performance by which the efficiency of his own plant may be judged. The effect of this on the trade in general would be salutary in the extreme. From such analyses the individual dealer would be able to draw inferences regarding the direction in which business was moving, and so be able to shape his business activity and policy on a basis of a composite picture of comparable facts.

No, it is not a big task, once the necessary co-operation is secured.

We agree with you that such reports, not only should, but *would* have a real message for Mason Material Dealers.

CHAPTER XVII

Bookkeeping Machines—When and When Not?

In reply to the dealer's question following, Mr. Hafner tells when a bookkeeping machine should be used:

For some time I have had a bookkeeping machine installed in my business, and have been assured that this is the most modern and up-to-date system of bookkeeping extant.

On the other hand, I have noticed continual references in your columns to Building Supply News System of Bookkeeping and Cost Finding System as being the most modern and up-to-date.

I confess I am confused as to just what is meant by the term "system," and wish you would give me some light on the subject.

EVERYBODY TALKING SYSTEM

Everybody is talking about system, and writing about it, and more or less interested in it; everybody wants some sort of system. But few who talk about it know what they are talking about; thus business men are led in all variable ways, while there is only ONE way in which they can get what they ought to have, for true "system" is always and will always be one. Thus, in spite of all our talk about it, the very meaning of the word "system" remains confused and undecided.

FIRST DESCRIPTION; THEN EXPLANATION

Whatever changes may be made in the customs of business; whatever new machines may be invented; whatever ingenious devices may be designed to give ease and facility for handling bookkeeping and clerical detail, true system in bookkeeping and cost finding remains and will remain unchanged. For, please observe, a good system always consists

of two things: description and explanation. First, gathering and describing the *facts* of the business; secondly, the interpretation of those facts for the use of the business man. A good system must always unite the two; it cannot exist for a moment but in their unity; it consists of the two as essentially as water consists of oxygen and hydrogen, or marble of lime and carbonic acid.

IT MUST GATHER AND PRESENT FACTS

So then, you see, a system of bookkeeping and cost finding worthy of the name, must be so *designed* as to gather essential and vital business facts, and present them in a clear-cut, definite, complete manner—all its effectiveness is rooted in the *truth* with which it accomplishes this. And this selection, arrangement and presentation must have influence over everything that the system is concerned with—over forms, and reports and statements. Every fact should be presented in just that order, and with just that force, that will perfectly connect it with all the other facts, and will illustrate the others as well as receive illustration from them.

Now, how is this to be accomplished? Only by "design." And to design a system competently, it is necessary to know what results it is desired to secure (which means an exhaustive study of the particular business or industry), and the best arrangement of forms and methods for securing them, and the surest way of effecting such arrangements (which means long years of experience in accounting work in many and varied lines of business); then only, so far as such arragements have been chosen, and such methods used, is the system well designed.

A MACHINE IS NOT A SYSTEM

See, then, that system is a set of principles, plans, methods; and not forms—not devices—not machines. A bookkeeping machine is *not* a system—it is a physical means to an end only. Forms, machines, devices are the *means* thru

which principles and plans are put into effect;—they are not a system any more than brick and mortar and steel girders are a building. So many tons of steel, so many yards of concrete, so many thousand brick are useless—utterly so—unless, in the first place, some architect has seen a complete building in his mind's eye, and has drawn a plan.

It has been our experience that in the past too many building supply dealers have looked upon a bookkeeping system as merely a means of accounting for purchases and sales—purchases at the price they pay for the materials, and sales at the price they receive for them. It never seemed to enter their heads that this sort of bookkeeping gave them but precious little information about their business. True, they knew how much they owed to others, and how much others owed to them, but the records stopped right there. No constructive facts were forthcoming; no knowledge of costs, so that high cost points stuck out so they could be hit.

HOW ONE DEALER WAS MISLED

That point is hammered home in the letter from W. E. Cox, of the O. H. Keller Lumber Yard, published on page 782 of Building Supply News, issue of May 23, 1922. Mr. Cox thought he was making a nice fat profit on mouldings, and found that he was not; he thought he was making a profit on finish, and found that he was not; he didn't know whether he was making a profit on coal, and found that "our coal business is actually standing us a *very great loss*, and we are no longer having to guess what this loss is."

Mr. Cox got all this and other valuable information by properly analyzing the *expenses* of his business, and accurately applying such expenses to the sales of the various commodities dealt in. He no longer has to "think" and "guess," because he has the facts presented to him by Building Supply News Cost Finding System. Note this, and never let it escape you when thinking of "system;" Building

Supply News System presents facts, because it *properly analyzes expenses and accurately applies such expenses to sales,* month by month as the business goes along.

DO YOU LIVE IN THE PAST OR THE PRESENT?

This monthly analyzing and application of expenses, together with a means of accurately determining the *cost* prices of materials sold, is the very heart of any worth-while system for building supply dealers. The trouble is that too many dealers pin their faith to last year's figures—on percentages based on what they have done and not on what they are now doing. They live in the past and not in the present. They are comparable to a mariner sailing a chartless sea, without sextant or compass, standing on the stern of his ship, which he attempts to steer by the line of foam following in its wake.

What every dealer needs is some means of ascertaining, monthly, just where and to what extent he is making a profit; that is to say, on what particular commodities and in what amounts. No forms, or machines or devices will accomplish this, in and of themselves. There must be a *plan,* into which all these things are fitted for a definite place.

USE A MACHINE WHERE VOLUME DEMANDS ONE

And it is just here that the bookkeeping machine comes in. It has a definite place, under certain conditions and circumstances. They are not economical in all cases. The fundamental condition underlying the use of bookkeeping machines is the *volume* of work to be taken care of by them. In those concerns where the total number of *items* to be posted do not average around 400 daily, it will be found that nothing is to be gained, in point of time or effort by the use of a bookkeeping machine. If the total number of daily items average less than 400, your bookkeeper can post by hand as easily—if not much more so—as by machine. You

see, bookkeeping machines are simply a means of handling bookkeeping detail—a system of bookkeeping, never.

One other point. In those concerns where bookkeeping machines are now being used for posting to Customers' Ledger or Purchase Ledger, or for handling any other work for which they are suited, no change as to the manner in which this detail is handled is ordinarily contemplated in the installation of Building Supply News System.

CHAPTER XVIII

How Should Credits Be Handled?

A GREAT MANY business failures are directly traceable to overexpanded credit. Any dealer who does not place a voluntary limit on the amount of credit for which he asks is, to say the least, running a very great business risk. The moment he expands his credit to the limit he leaves himself no margin of safety, and a sudden change in business conditions may place him in a serious situation.

OVEREXPANSION OF CREDIT

Commercial agencies usually call this condition a lack of capital. The fundamental cause, however, is not so much lack of capital, as it is doing too much business on credit. The business man has been using all the borrowing capacity he possesses; and, instead of carrying on his affairs on the capital actually invested in the business, is doing it to a very considerable extent on the money that others have loaned him.

Prices will be rising. He will know in a general way that prices sometimes fall, but if prices keep on rising thru two or three years, the eventuality of a fall will seem remote. He will believe all the good news he hears and none of the bad. He prospers. He finds that he can pay his bills with something over. He views his business thru rose colored glasses.

When he is short of money he borrows, or he borrows to take cash discounts. There is always an interval between the time when money is paid to him, and the time when he has to pay his bills. If he does not take cash discounts, he may have a period of 60 or 90 days during which he can use this money. By that time other money is in, and he can use that. He may not be making a profit, but he has a "float" of money, which does not really belong to him, but enables him to live and stay in business.

THE LIMIT OF CREDIT

If this "float" of money is large enough to pay the bills ahead as they fall due, he fails to distinguish between profits and money owed, and begins to extend his business or his scale of living on the money in hand. If he is not quite so crude as this, and keeps some sort of adequate bookkeeping records and an inventory, he may not spend so much, but he will likely take all his accounts receivable at their face value, and price his inventory at more than it is worth.

There are two sides to this question of credit. The limit of credit is not the amount you can get—altho that is the more common limit. The limit should be determined by what you can use with safety; and what you can use with safety is determined, in turn, not by your banker or the credit manager of the firms from whom you buy, but by you yourself. And the fixing of the amount of credit you can safely use, whether mercantile or bank, is not based on the number of orders on hand, or on ability to sell or on anything of the kind, *but only on the amount of capital at your command.*

This does not mean that credit should not be sought; or that all business should be done on the capital actually invested in the concern. It is the fact that few, if any, business establishments are so circumstanced, in respect to the necessary volume of available cash, as to be able to dispense with credit, that makes credit so indispensable a factor in commercial life. The limit of the volume of currency restricts such a possibility and leaves the commercial public under the dominion of the credit system. Hence it is apparent what a boon credit represents to business men and how its absence would dwarf all attempts at extended business enterprises.

RELATION OF SALES VOLUME TO CREDIT

Credit should be sought and used intelligently; but it should not be strained. Overexpanded credit not only brings disaster

to individual business concerns but it also brings on business depression. After expansion has reached a certain point demoralization takes place. For instance how often does a dealer ask himself the question: "How much can I afford to sell?"

This might seem at first glance like foolish question number 9869. The usual answer emphatically given will be: "All that I can. How else can I go forward?" It may seem ridiculous to suggest that a dealer may have more business than is good for him. Yet it is a proved fact that a large portion of the present business and financial difficulty came thru failing to ask whether or not orders should be taken beyond a certain amount.

This is unfortunately a subject to which almost no attention has been given. Business in general is thought to consist of buying and selling. Finance seems a consequence—an incidence. Very little, if any, thought has been given by the dealer to fixing the point at which to stop selling—when and where to say: "My capacity at the present time is taxed to the limit. I can take further orders subject only to my ability subsequently to fill them."

Now, the ability to fill orders may be physical. In that case every dealer will know how to go about reforming his limits, by such extensions as may be necessary to expand them. But the wisdom of expansion is another matter, especially in boom times. More often, however, the limit to sales is really financial rather than physical. And this is irrespective of the credit that can be obtained. Every supply business has at any particular moment a very definite financial limit which should be translated into the amount of business it can *safely* do. And that limit is not fixed at all by borrowing capacity.

KEEPING YOUR CREDIT GOOD

It is not a hard matter to keep your credit good. All that is necessary is to take a few precautions, and observe in general the principles of good business. The first requisite, of course,

is to accept no more credit than the business will stand. Sometimes it is possible to secure enough credit to ruin a business. Its present condition and future prospects may appear so good as to warrant securing all the credit possible under the circumstances.

It requires courage to limit the growth and the temporary prosperity of a business by keeping down the credit accepted—extraordinary courage. It is very hard to refuse orders. It is difficult not to make extensions when there is in sight if not actually on the books, enough business to pay for the extensions. But the *acid test* of whether or not you should extend and borrow is *not* the amount of business that can be done, but the *amount of money that can be spared.* The mere fact that you have the money or can get it does not in the least mean that it should be spent.

And the reason for this is that, in order to keep your credit good, you must meet all obligations promptly. Nothing has a more chilling effect on any business than failure to meet all indebtedness when due. Immediately additional time is requested in which to meet obligations, your credit rating begins to contract; and if, at the same time, your credit has been over-expanded the business is placed in a most difficult position. More than one concern has gone to the wall when faced with this combination.

THE SAFETY VALVE OF CREDIT EXPANSION

The principal difficulty in this matter of the proper use of credit is that very few supply dealers know very much about their financial position or operating condition during the course of the year. The most of you depend upon closing up your business once a year only, to find out what you have made or lost for the past twelve months; during all the balance of the year you have no means of determining what profit you are actually making, or what losses you are surely suffering. And,

as has already been pointed out, so long as there is a "float" of money to take care of your current obligations, you do not distinguish between profits and money which may not really belong to you.

It all gets down to this: It is not possible to use your credit properly—in the last analysis, it is not possible to do business properly—unless and until you have a means of knowing, currently, month by month, as you go along, all the facts regarding costs and profits. This is the safety valve of credit expansion. Only by knowing whether you are making a profit is it possible for you to determine whether your capital is increasing or decreasing. If you wait until the end of the year to find this out, you may have wiped out your capital entirely in the meanwhile.

Any business man whose accounting records will not show him first, what he has now; second, what he had yesterday; third, what he may expect to have tomorrow, is sailing in uncharted seas.

And the *rub* is just there. If you cannot demonstrate—*prove*—that you can pay the money back when due, your accounting is not well done.

If you had, at the end of each month, the information shown by Figs. 59 and 60 there would be no question as to your having all the facts necessary to set you right on this very important subject.

And it's the easiest thing in the world to get these statements monthly. Building Supply News has recently published a system of bookkeeping and cost finding specially developed for supply dealers, which will furnish monthly statements of this character, and do it with no increase in the amount of bookkeeping labor. If you employ a bookkeeper, why not use him to the best advantage? The bookkeeper is there, why not make him productive?

FIGURE 60

STATEMENT OF PROFIT AND LOSS
UNIVERSAL BUILDING SUPPLY CO.
JANUARY 31st, 1922

	YARD SALES	INDIRECT SHIP-MENTS	DIRECT SHIP-MENTS	TOTAL
SALES				
Gross	$60,000.00	$5,000.00	$15,000.00	$80,000.00
LESS: Returns	1,000.00	....	1,500.00	2,500.00
NET SALES	$59,000.00	$5,000.00	$13,500.00	$77,500.00
COST OF SALES	44,250.00	4,000.00	11,475.00	59,725.00
GROSS PROFIT	$14,750.00	$1,000.00	$ 2,025.00	$17,775.00
PER CENT OF GROSS PROFIT TO NET SALES	25%	20%	15%	22.935%
EXPENSES:				
Yard and Warehouse	$ 3,000.00	....	....	$ 3,000.00
Delivery	902.00	$ 198.00	....	1,100.00
Selling	4,948.45	419.25	$ 1,132.30	6,500.00
Administrative and General Office	3,667.98	167.13	464.94	4,300.00
TOTAL EXPENSE	$12,518.38	$ 784.38	$ 1,597.24	$14,900.00
PER CENT OF EXPENSE TO NET SALES	21.218%	15.688%	11.831%	19.226%
NET PROFIT IN MERCHANDISING	2,231.62	215.62	427.76	2,875.00
PER CENT OF NET PROFIT TO NET SALES	3.782%	4.312%	3.169%	3.709%

OTHER INCOME:	
Interest on Bank Balances	$ 88.00
Discount on Purchases	201.00
	$ 289.00
TOTAL	$3,164.00
OTHER DEDUCTIONS:	
Interest on Borrowed Money	$ 275.00
Discount Allowed Customers	220.00
Loss on Bad Accounts	100.00
TOTAL	$ 595.00
ADDITION TO PROFIT AND LOSS—SURPLUS	$2,569.00

FIG. 59

BALANCE SHEET

UNIVERSAL BUILDING SUPPLY CO.

JANUARY 31st, 1922

ASSETS

CURRENT CASH:				
On Hand		$ 1,000.00		
On Deposit		29,000.00	$ 30,000.00	
ACCOUNTS RECEIVABLE:				
Customers—City	$115,000.00			
Customers—Country	105,000.00			
Sundry Accounts	8,000.00	$228,000.00		
LESS: Allowance for Doubtful		6,000.00	222,000.00	
NOTES RECEIVABLE		$ 32,000.00		
NOTES RECEIVABLE DISCOUNTED		6,000.00	26,000.00	
MERCHANDISE INVENTORIES:				
On Hand		$ 82,000.00		
In Transit		10,000.00	92,000.00	
TOTAL CURRENT ASSETS				$370,000.00
OTHER ASSETS:				
Investments			$ 14,000.00	
Loans to Employees			30,000.00	44,000.00
PERMANENT ASSETS:				
Real Estate		$ 14,000.00		
Buildings		120,000.00		
Machinery and Equipment		13,200.00		
Motor Truck Equipment		8,800.00		
Teams and Wagons		4,400.00		
Furniture and Fixtures		2,200.00	$162,600.00	
LESS: Allowance for Depreciation			16,260.00	146,340.00
DEFERRED ASSETS:				
Prepaid Advertising			$ 2,000.00	
Prepaid Insurance			1,500.00	
Prepaid Interest			500.50	4,000.00
				$564,340.50

LIABILITIES

CURRENT ACCOUNTS PAYABLE:			
For Merchandise		$145,000.00	
Sundry Accounts		5,000.00	$150,000.00

NOTES PAYABLE:			
For Borrowed Money	$ 15,000.00		
For Merchandise	5,000.00	20,000.00	
ACCEPTANCES PAYABLE:			
For Merchandise		15,000.00	
ACCRUED ACCOUNTS:			
Accrued Salaries and Wages	$ 7,000.00		
Accrued Commissions	9,000.00		
Accrued Interest	1,000.00		
Accrued Taxes	780.00	17,780.00	
TOTAL CURRENT LIABILITIES			$202,780.00
RESERVES:			
For Federal Taxes		$ 2,000.00	
For Contingencies		2,725.00	4,725.00
CAPITAL STOCK:			
Preferred Stock—Authorized	$100,000.00		
LESS: Preferred Stock Unissued	50,000.00	$ 50,000.00	
Common Stock—Authorized	$100,000.00		
LESS: Common Stock Unissued	50,000.00	50,000.00	100,000.00
PROFIT AND LOSS—SURPLUS		$254,266.50	
PROFIT AND LOSS—CURRENT MONTH OF JANUARY		2,569.00	265,835.50
			$564,340.50

CHAPTER XIX

How Should Collections Be Handled?

The whole secret of getting in your outstanding accounts receivable is to insist on observance of your terms. It is a simple matter of horse sense, that is all. State your credit terms, and insist that every man who buys from you hold to them.

Certainly that formula is simple enough. And yet, it is just here that 99 per cent. of all dealers fail. Collection calls, collection letters, duns, "stunts" may be good or bad in themselves. But they are hopelessly ineffective, if they are not backed up by this simple fundamental principle: State your terms, and have the courage to get them observed!

SIMILARITY OF SELLING AND COLLECTING

There is no basic difference between selling building supplies and collecting the money for them. Either problem simply means that a way must be devised to overcome the resistance against what you desire to accomplish. This is true, because the only difference between the sale and the collection is that, in the first instance, the customer signs the order and in the second instance he signs a check.

Unless you are relying upon reaching every man, woman, and child in the country, general business conditions are not very important to you. The law of general average does not apply to you, unless you admit you are only sitting down and idly waiting for business to come your way. As long as there remains enough possible customers who are able to buy and who need your materials, your mission is to reach them and forget those who are not now possible prospects.

The same thing holds true in collections. Money may be tight and scarce, but unless you have been extending credit with

utmost abandon, practically every one of your customers has the money, *or can get it.* There may be times when he hasn't enough money to immediately pay everything that he owes, and which is due, but even then he still may have enough money to pay your bill, or at least part of it. Whether you get that money or whether someone else gets it, depends on *you.*

If any dealer handles his collections on the theory that the business conditions of the nation must be changed before he can collect the $132.64 due from Smith, he is on the wrong track. He does not have to change the whole nation to collect that bill, nor does he have to wait for someone else to change the nation. His battle is with Smith only. It will pay him to forget the others who do not owe him—and go after Smith, who does.

REQUISITE OF HUMAN INTEREST IN SUCCESSFUL COLLECTION PLANS

But this matter of getting your money when it's due is not a cold-blooded proposition of watching your customer like a vulture, altho certainly, as will be later illustrated, you should

Name	Wife
Address	
Employed by	Date Opened
	Date Closed
Highest Credit	
Real Estate Owner	Location
Rents of	Terms
References:	
Name	Address

— FIG. 66 —

Figure 66. A Card File Like This Should Be Maintained So That Credit May Be Granted Promptly.

REF. 6861

DATE	AMOUNT	PAYMENTS	REMARKS	LETTERS
RATING		OCCUPATION		LIMIT

— FIG. 67 —

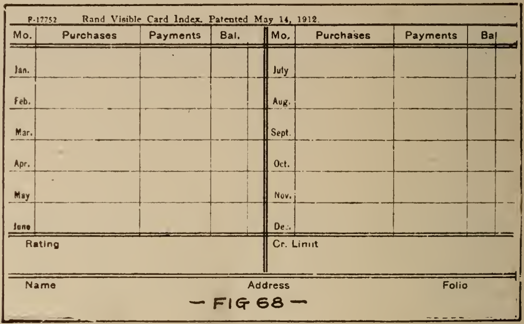
Figure 67. This Card Enables the Dealer to See the Exact Status of the Customer's Account Without Referring to the Ledger Each Time.

maintain some sort of adequate credit records. Rather, it is a question of realizing that fact and diplomacy, and a genuine human sympathy and imagination are of the utmost importance.

A great many people have an abhorrence of even a polite letter reminding them that they have failed to pay their bills. They resent it, no matter how courteously the letter is worded, and if it has an individual signature on it, they think that that person has a grudge against them, and likes to hound the life out of them about their bills. When only the firm's name is used, the customer is less likely to get the impression that the proprietor or manager is injecting his personality into the letter.

One dealer's collection plan, which effectively produces worthwhile results, consists of writing the following friendly letter, to all those customers who, for one reason or another, have neglected to settle their accounts.

"If it is not convenient for you to pay your account in full, we shall deeply appreciate it if you can help us out



P-17752 Rand Visible Card Index. Patented May 14, 1912.

Mo.	Purchases	Payments	Bal.		Mo.	Purchases	Payments	Ba
Jan.					July			
Feb.					Aug.			
Mar.					Sept.			
Apr.					Oct.			
May					Nov.			
June					Dec.			

Rating Cr. Limit

Name Address Folio

— FIG 68 —

Figure 68. Like Figure 67, This Card Makes Possible a Quick Review of the Customer's Account.

with a payment of whatever you can spare at present.

"We do not want to dun you, and if you can't pay just now, pay no attention to this request until such time as you may be in a position to favor us.

"Thank you very much for your business."

The customer who receives this kind of a letter represents the best trade that this dealer enjoys. If they were not of this type, the letter would fail of its purpose, for there are always customers of the less desirable type who would take advantage of the offer that the letter carries, and put off paying their bills as long as they possibly could.

We believe that the most successful collection plan is based on the theory that human interest is the biggest single aid in collecting money; in other words, that your customer will pay his bill, if he is treated with the same courtesy and consideration as you expect to receive from your creditors.

One ingenious device serving this end is to write across a slip of paper attached to the top of every overdue bill sent out to customers, the following sentence: "Dollars are worth so

little today, I am sure you will not mind sending me the few you owe." Any dealer will find that a device such as this will do more good in collecting accounts for them than any ordinary dunning letter.

PERSONAL CONTACT BEST COLLECTION MEDIUM

But the most successful plan of all is to have a heart to heart

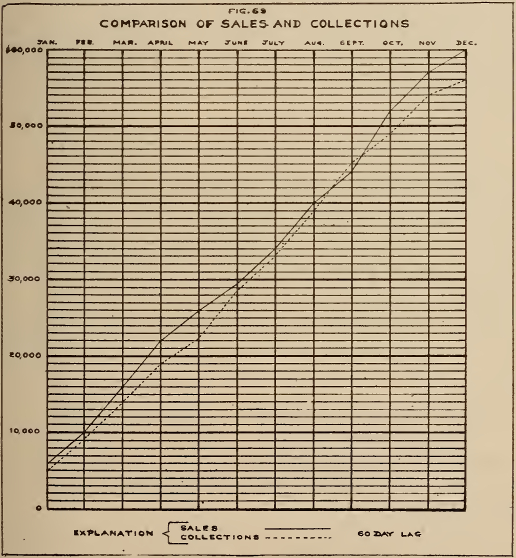


Figure 69. A Graph Similar to the One Above Will Be Exceedingly Helpful in Enabling the Supply Man to Compare Sales with Collections and Govern His Activities Accordingly.

talk with your customer about his bill. Meeting customers in person makes for better mutual understanding. Such visits will smooth out wrinkles, and enable adjustments to be made, and claims settled, more quickly than in any other way. By this means you become familiar with the class of customers you are dealing with, and the condition of their businesses. Besides this, you will find them returning to you again and again with orders, for they soon understand that you are interested in their welfare beyond the getting of orders. We think it is a good plan for the proprietor or manager to get about among his customers as much as possible, especially in connection with this matter of overdue accounts. In our judgment, it should be the policy of every dealer to gain the confidence of his customers thru personal contact with them.

CREDIT AND COLLECTION INFORMATION

To enable credit to be granted promptly by the office, a card file, either visible index or closed file, similar to that illustrated by Fig. 66, should be maintained. If a card is maintained for each customer, the approval of ordinary credits can be taken care of by the order clerks, as they are received over the telephone, thru the mail or otherwise.

When it is desired to have a concise record of the condition of each account, without the necessity of referring to the detail in the Customers' Ledger, cards similar to Figs 67 and 68 should be kept.

Customers should be divided into at least three classes:

1. Those who enjoy unlimited credit, and who pay promptly and according to terms of sale.

2. Those upon whom a limit has been placed, and who are under surveillance.

3. C. O. D. Customers; i. e., cash or payment on delivery.

To designate the particular one of the three above-named classes into which any customer may fall, three metal guides are used. One is blue, one green and one red. The blue tag is placed on all accounts falling within the first classification;

the green tag on all those comprising the second classification; while the red tag signals danger, and is placed on all C. O. D. customers.

CHARTING SALES AND COLLECTIONS

In almost every building supply business, the proprietor or manager will find a graph, similar to that depicted by Fig. 69, a real help in keeping collections normal.

The sales and collections curves on this chart are plotted cumulatively, from month to month, the collection data being two months later than the sales figures. January sales are compared with March collections; January plus February sales are compared with March plus April collections, and so on during the year.

Seasonal lags and spurts in collections are thus clearly shown, and the general relations between collections and sales can be properly maintained. Working on a 60 day basis, if accounts are collected up to date, the sales and collection curves should be nearly parallel.

Finally, go after your delinquent customers; camp on their trail; let them know you expect settlement—but do it kindly, courteously, tactfully. This is the secret of successful collections.

CHAPTER XX

Finding the Right Selling Price and Fair Profit Percentage

Just what method to use in figuring percentages in arriving at selling prices to produce a 10 per cent. profit, is given by Mr. Hafner to answer this interrogation:

Will you have Mr. Hafner explain the proper method of figuring percentages in arriving at selling prices which will produce a net profit of 10 per cent. on annual sales provided the cost of doing business is 15 per cent. of the annual sales?

In finding percentages, we always have a clearer view of what we want, if we put the figures in the shape of a fraction.

For the purpose of illustration let us assume that the annual sales amount to $200,000.00 and that the annual expenses amount to $30,000.00. What we want to determine, first, is what percentage of $200,000.00 is $30,000.00. To do this, we put the figures in the shape of a fraction, and divide the upper figure by the lower, thus:

```
 30000
-------
200000 | 30000 00 | .15
         20000 00
         --------
         10000 00
         10000 00
         --------
```

We find, then, that the total yearly expenses of $30,000.00 represents 15 per cent. of the total yearly sales of $200,000.00.

In using percentages as a tool to work with, we should have a clear understanding of what percentage is. Percentage is a standard of comparison for amounts, as a thermometer is a standard of comparison for temperature, or a two-foot rule is

a standard of comparison for lengths. The word percentum means 100 parts, or 100ths. As we compare lengths by inches and temperature by degrees, so we compare amounts by per cent., or hundredths.

Accordingly, one amount compares with another amount as each contains a less or a greater number of 100ths, just as one temperature compares with another temperature according as it contains a greater or less number of degrees, or as one length compares with another length as it contains a greater or less number of inches. It is seen from this that percentage is simply a means for measuring figures.

This is all apparently simple enough. And yet it does not always work out just right, it seems. Let us see, then, what it is that tangles up so many of us in attempting to handle percentage.

AN ACTUAL LOSS WHEN THE DEALER DIDN'T KNOW

For purposes of illustration, let us take, first, the method of the dealer who knows nothing about what his expenses are. He has heard some other dealer say that he figures to make 10 per cent. profit, and because that is what he thinks others are asking, he will figure something like this on a sale, say, of cement, which costs him $2.50 per barrel:

100 barrels cement @ $2.50	$250.00
Add 10 per cent. of $250.00 for profit	25.00
Total	$275.00

He will probably say to himself that by adding an additional $5.00 he will be on the safe side, and make his 10 per cent. profit and perhaps a little over, and therefore sells the lot for $280.00.

Let us see, now, what has really happened:

Cost of cement	$250.00

Expense 15 per cent. (not of $250.00, but of

$280.00, which will be explained later)........	42.00
Total cost	$292.00
Sale price	280.00
Net loss	$ 12.00 or

4.28+ PER CENT. of the selling price.

THE SUPPLY MAN WHO KNEW HIS COSTS

Next, let us illustrate the method of the dealer who knows, from last year's figures, that his expenses amount to 15 per cent. of his sales, but does not know how to apply that knowledge correctly. Probably his estimate will show up like this:

100 barrels cement @ $2.50........................	$250.00
Expenses, 15 per cent. of $250.00..................	37.50
Profit, 10 per cent. of $250.00....................	25.00
Total	$312.00

He will likely think that he can afford to shave his profit a little, and will therefore make the total $310.00, or $3.10 per barrel.

Let us see what has happened in his case:

Cost of cement..	$250.00
Expenses, 15 per cent. of $310.00 (instead of $250.00)	46.50
	$296.50
Sale price	310.00
Net profit	$ 13.50

which is 4.35+ per cent. of the sale and not 10 per cent.

In this matter of figuring percentages, the very first thing we must get a firm hold on is this:

THE SALE PRICE REPRESENTS 100 PER CENT.

To figure by per cent. intelligently we must have somewhere

something that represents 100 per cent., which in the case of building supply dealers is the SALE PRICE. When we attempt to figure any part of the whole as 100 per cent. we immediately get into difficulty. All component parts are measured as 100ths of this 100 per cent.

Hence,

if expenses represent	15 per cent.;
and profit represents	10 per cent.;
we have accounted for	25 per cent.,
and the cost of the cement must, therefore represent	75 per cent.,
making the sale price	100 per cent.

In other words, the $250.00 cost of the cement is 75 per cent. of the sales price, which sales price is represented by the total of 100 per cent.

A RULE FOR FIGURING PERCENTAGES

In figuring percentages of this kind, the following rule must always be observed:

DIVIDE THE AMOUNT OF THE COST BY THE PERCENTAGE IT REPRESENTS. THE ANSWER WILL BE THE SALE PRICE.

$250.00 ÷ 75 per cent. = $333.33, which should be the selling price for 100 barrels of cement, provided the price paid is $2.50 per barrel, expenses are 15 per cent. of the sales, and the dealers wish to make a profit of 10 per cent. net.

How do we know this is correct? A method to be of any value must be susceptible to mathematical proof. Let us therefore prove the proposition, thus:

Cost of cement	75 per cent. of $333.33 =	$250.00
Expenses	15 per cent. of 333.33 =	50.00
Profit	10 per cent. of 333.33 =	33.33
Total	100 per cent.	$333.33

This method is absolutely correct, whether it is applied to the sales of a barrel of cement, a thousand brick, or a ton of coal; whether the sale amounts to $5.00 or $5,000.00.

The selling price is 100 per cent., or the whole. All the component parts are represented by 100ths, or percentages of the whole. There is nothing in the entire equation that represents 100 per cent., except the selling price. Hence, all percentage computations should be based on the selling price.

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Supplement to Building Supply News Handy Cost Book — Charts, Diagrams and Forms Referred to in Text

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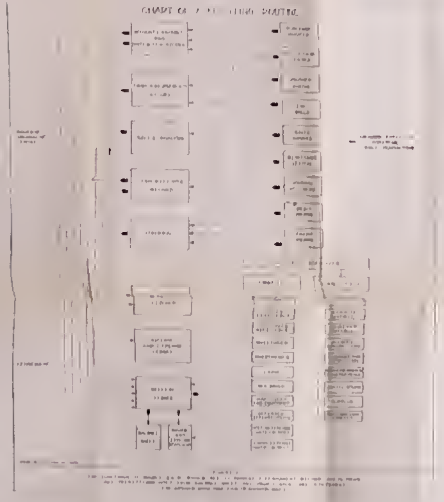


FIGURE No. 7

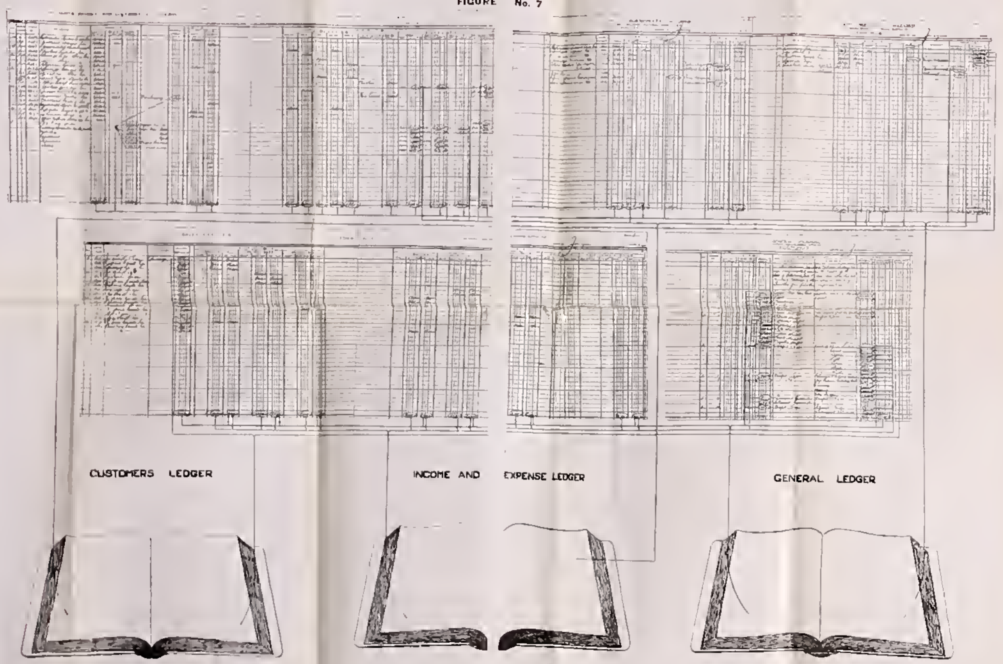


FIGURE No. 11

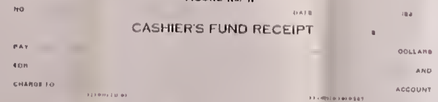


FIGURE No. 12
PETTY CASH SUMMARY

FIGURE No. 13

Chart of Expense Classifications

Figure 13, Universal Building Material Supply Co.

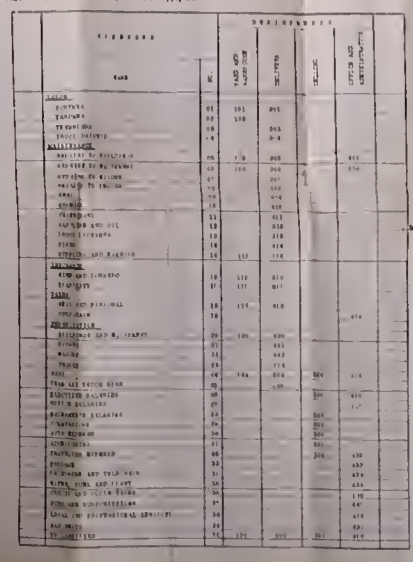
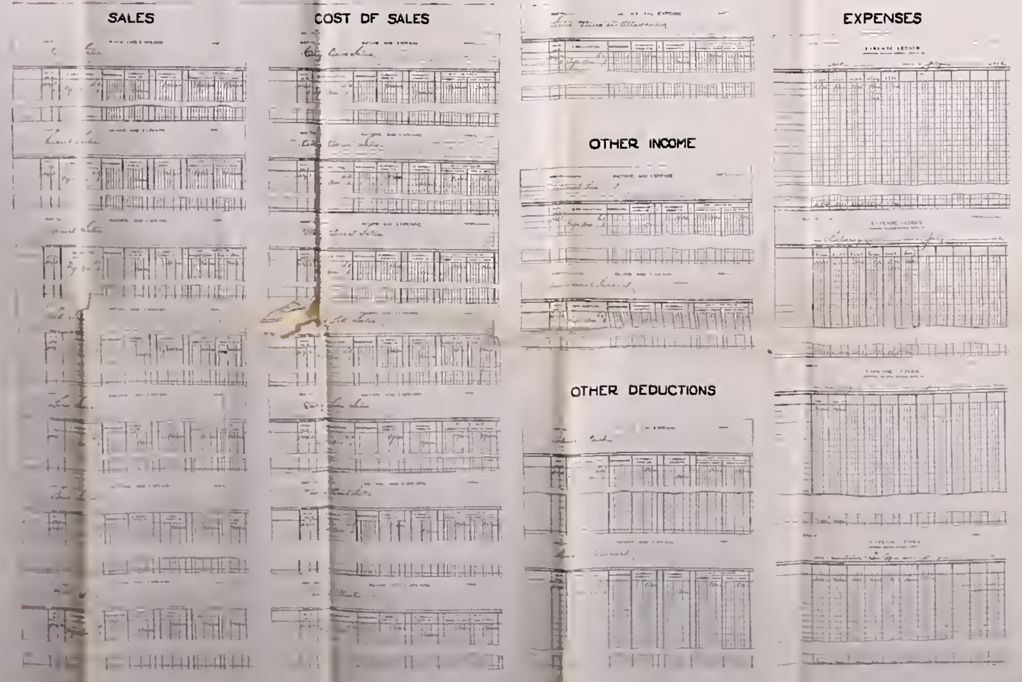


FIGURE NUMBER 9
INCOME AND EXPENSE LEDGER ACCOUNTS



NUMBER 10
GENERAL LEDGER ACCOUNTS

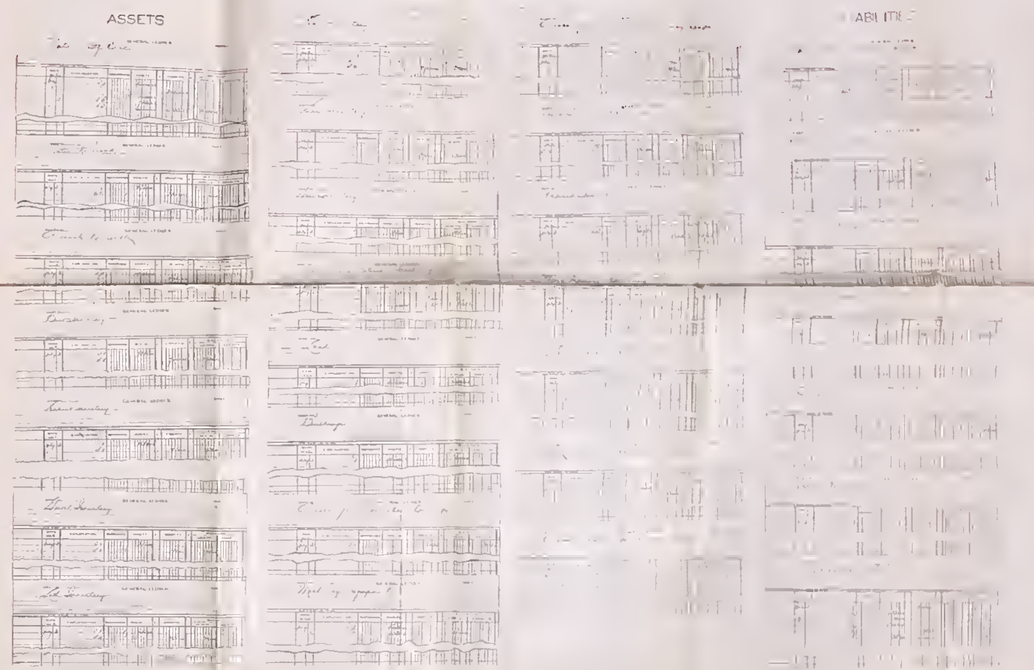


FIGURE No. 26B

FIGURE No. 26A

FIGURE No. 26

FIGURE No. 25A

FIGURE No. 25

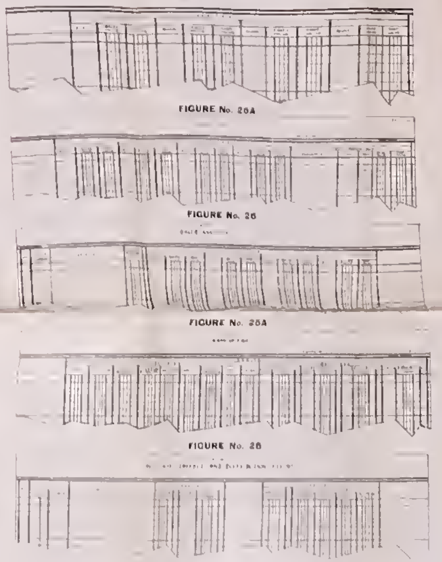


FIGURE No. 23

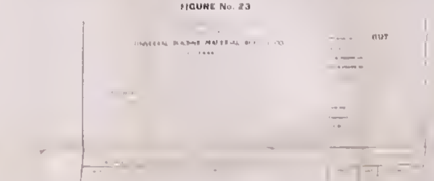


FIGURE No. 22

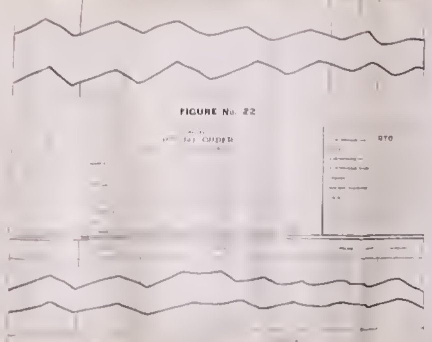
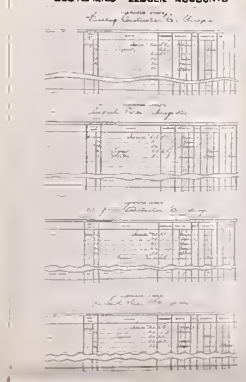


FIGURE No. 8
CUSTOMERS LEDGER ACCOUNTS



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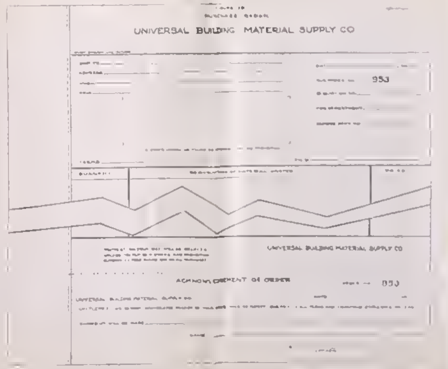

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FIGURE No. 15

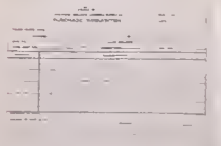
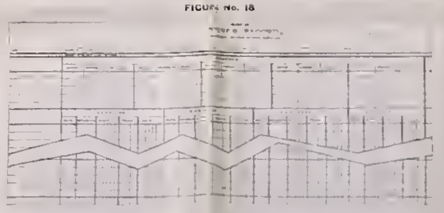


FIGURE No. 18



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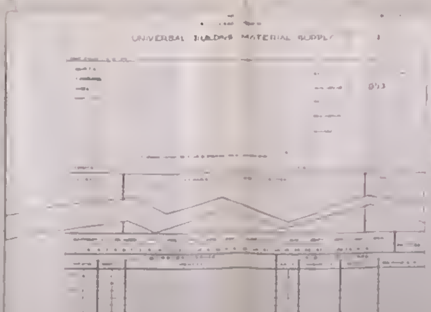

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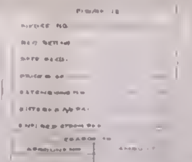

FIGURE No. 20

FIGURE No. 14

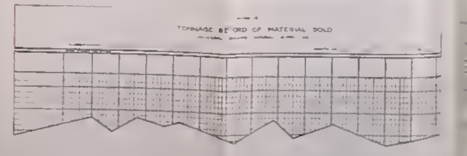

FIGURE No. 21